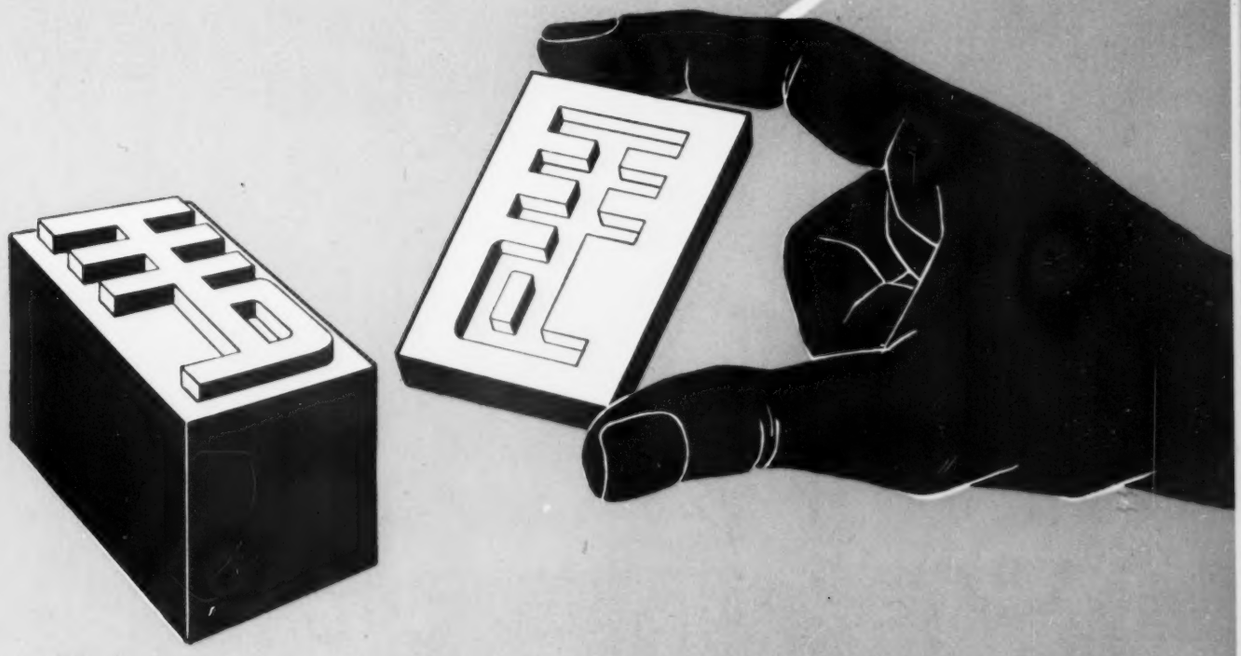
APRIL 1952

PLEASE ROUTE THIS COPY TO	
Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.
For filing, please return to	

PRINTING EQUIPMENT *Engineer*



AN INDUSTRY-WIDE TECHNICAL PUBLICATION

FOR A BETTER LIGHT IN EVERY WAY

—a light that is steadier, cleaner and more economical, use brighter

GRAFARC 95 AMPERE STANDARD PRINTING LAMP NO. 32000

with No. 33000 transformer and No. 34000-1 stand for use with vertical printing frames under 40″ x 50″.

GRAFARC 140 AMPERE PRINTING LAMP NO. 32500

with No. 33500 transformer and No. 3400-1 stand for use with vertical printing frames 40″ x 50″ and larger.

Strong

GRAFARC

Fully Automatic High Intensity ARC LAMPS

GRAFARC 95 AMPERE STANDARD CAMERA LAMP NO. 32002

for

PLATE MAKING

- Cut exposure time in half
- Assure sharper dots
- Eliminate dot undercutting by cross-over of reflected light rays

CAMERA GALLERY

- Uniform illumination on work of any size
- Extreme steadiness of light volume
- Constant color temperatures
- Eliminate illumination variable in accurate control of densities
- Power to punch through dense kodachromes

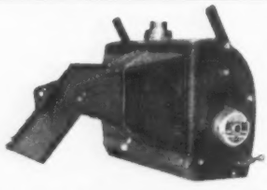
STEP AND REPEAT MACHINES

- Precise control of intensity for accurate repeats

NO OTHER LAMPS MEASURE UP TO THEM IN PERFORMANCE

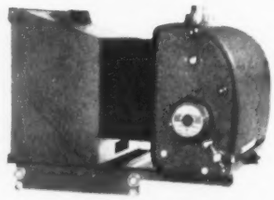
Approximately twice the light per arc watt results from the use of a silvered glass reflector, instead of a metal reflector. Adapters to fit most cameras and photo-composing machines. Present line supply wiring is usually adequate.

Write today for literature and prices.



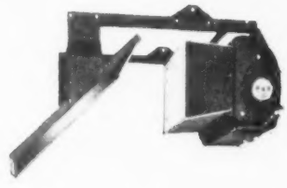
GRAFARC 95 AMPERE OVERHEAD PRINTING LAMP NO. 32221

for use with horizontal printing frames under 40″ x 50″. Burns in normal position thereby avoiding smoking of reflector and preventing ash from depositing on surfaces in the light path. A 45-degree angle mirror redirects the light downward to the work area.



GRAFARC 95 AMPERE PHOTO-COMPOSING LAMP NO. 32200

for Monotype Huebner MH photo-composing machines. Assures precise control of intensity for accurate repeats.



GRAFARC 140 AMPERE OVERHEAD PRINTING LAMP NO. 32520

for use with horizontal printing frames 40″ x 50″ and larger.

STRONG ELECTRIC CORP. 307 CITY PARK AVENUE • TOLEDO 2, OHIO

NEWSPAPERS EVERYWHERE PRAISE THIS STA-HI STAR PERFORMER!

★ **NYACK, NEW YORK, JOURNAL-NEWS**

"Our new STA-HI Master Former has been performing in a most satisfactory manner . . . We wonder how we got along without it. It has greatly improved the quality of our printed sheet."

—Frederick R. Miller, Business Manager

★ **SARASOTA, FLORIDA, HERALD-TRIBUNE**

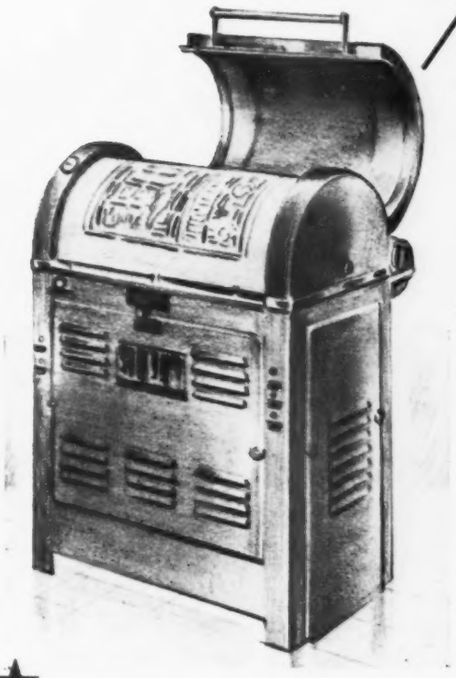
"We are extremely happy with this new equipment. It has solved the problem we have struggled with in the press room for a long time. Our pages are sharper and considerable work has been eliminated in our stereotyping."

—George W. Bauer, Business Manager

★ **COMPTON, CALIFORNIA, HERALD-AMERICAN**

"The machine is working grand and we are very pleased."

—Ralph J. Brewer, General Manager



★ **PERTH AMBOY, NEW JERSEY, EVENING NEWS**

"We are happy to advise you that the STA-HI Master Former is doing a fine job."

—Paul V. Murphy, President

★ **CINCINNATI, O., ENQUIRER**

"We installed the new Master Former and it has been performing beautifully."

—H. D. Rindsberg, Production, Mgr.

★ **SUNBURY, PA., ITEM**

"We have installed a Master Former in our pressroom which is used in connection with our 24 page Duplex . . . The machine serves its purpose adequately and is a great improvement over our previous equipment."

—B. A. Beck, General Manager

★ **BURLINGTON, IOWA, HAWK-EYE GAZETTE**

"Our STA-HI Master Former is performing splendidly and giving the shrinkage results we desired when we recently changed from 33½" to 32" web."

—Clarence W. Moody, Ed. & Publisher

★ **WASHINGTON, NEW JERSEY, STRYKER PRESS**

"We feel it is the best investment made in our whole plant during the year 1951."

—Fred E. Lewis

★ **STA-HI MASTER FORMER**

★ **SIOUX FALLS, S. DAKOTA, ARGUS-LEADER**

"When you shipped our last STA-HI Master Former it was putting two of them in our stereotype department. It goes without saying that this machinery is something we can't get along without. Our new one is giving us the same good service as the one we have had for a number of years."

—E. J. Kahler, Manager

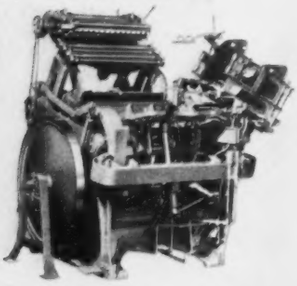
★ **SCHENECTADY, NEW YORK, GAZETTE**

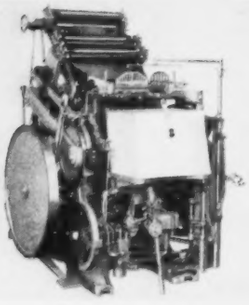
"The Master Former is producing very satisfactory results . . . We haven't had a concaved buckle or a solid in a mat since the Sta-Hi has been operating. It is also doing wonderfully well so far as control of mat shrinkage is concerned. What more could a stereotyper ask?"

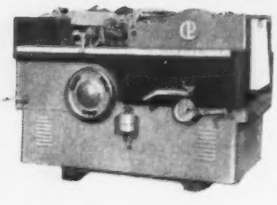
—Wilbur Van Dyke, Stereotype Foreman

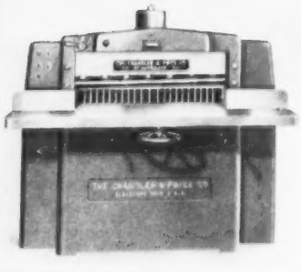
STA-HI® **STA-HI CORPORATION** 235 West Washington Boulevard, Box 152, Whittier, California

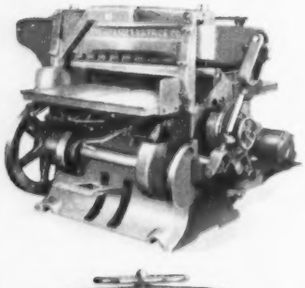
Protect Your Profits with Chandler & Price Equipment











Streamlined Design... Fast, Accurate Cutting... Easy Electrical Control... Packaged Power Unit

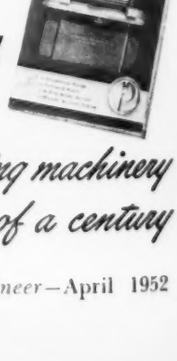
● From the first day of its introduction a few months ago, the Chandler & Price 37" Automatic cutter has had wide acclaim from cutter users as: "This is the kind of cutter I've always wanted!"

Truly remarkable in its fast, easy action, this automatic cutter provides many unequaled features in cutter operation. The power unit is complete in itself—"packaged power." Electrical controls for fully automatic or semi-automatic operation are grouped conveniently at the left of the machine. Binder clamp is directly driven by a separate motor independent of knife bar drive.

Integrated, fool-proof non-repeat devices and two-hand cutting control insure safe, speedy, accurate cutting.

The full length extension tables as standard equipment and the wide 37" cut with a 37¼" length of cutting table behind the knife provide ample space for jogging and cutting the stock.

For more details of the superior operating advantages and cutting qualities of this machine, write for the illustrated folder, "C&P 37" Automatic Paper Cutter.



THE CHANDLER & PRICE COMPANY

6000 CARNEGIE AVE. • CLEVELAND 3, OHIO

Where American workmen have been building printing machinery for American printers for nearly three quarters of a century

Can Any Publisher Afford an Obsolete Composing Room?

SCOTT Ideal Matrix Rolling Machines

The Scott Ideal Matrix Moulding Machine rolls any kind of matrix. The form is started under the upper cylinder by the application of a crossed belt drive which permits the cylinder to vary its surface speed between 1″ and 1¼″ without slippage. This drive allows the upper cylinder to find its own float without strain on the matrix. Powerful rolling mill effect and straight line pressure assures easy operation.

With the Scott free moulding cylinders all imperfections are eliminated, thus producing sharp, full depth rolled mats free from mechanical buckling.

Your inquiry regarding these Scott Ideal Matrix Machines is invited.

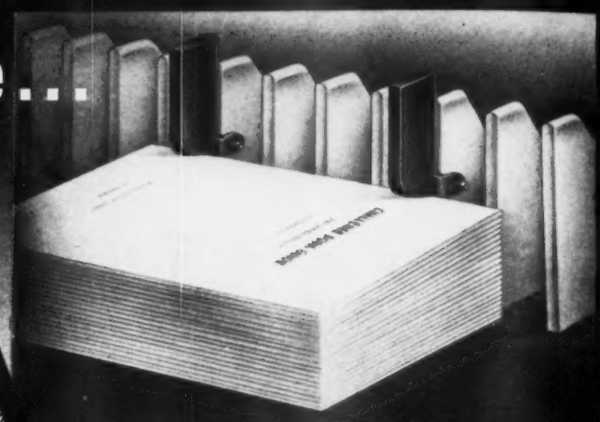
15-L-15

Buy with Confidence . . . Buy **SCOTT**

WALTER SCOTT & CO. INC.

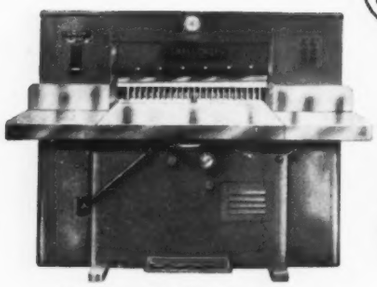
PLAINFIELD, NEW JERSEY

It's a Trick of the Trade . . .



To get an even cutting edge and assure neater book trimming, use a pair of guides on the backgage. You can buy a book guide to fit any backgage finger up to ½" thick. Easily attached, dependable, and adjustable for small or large lifts.

* CHALLENGE BOOK GUIDES NOW AVAILABLE AT $5.00 PER PAIR. ASK YOUR DEALER.



Challenge 370 Automatic (Hydraulic Clamp) Cutter

BUT IT'S NO TRICK TO DO AN ACCURATE JOB WITH A DEPENDABLE

Challenge Cutter

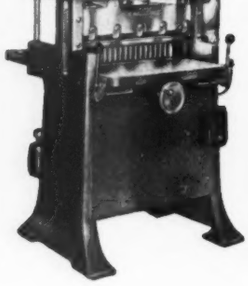
Diamond (Hand Clamp) Power Cutter

Just as a magician measures success by applause . . . a paper cutter's performance is rated by the number of printers who recommend it. And on this basis . . . the Challenge line is the ***most popular*** in the field!

In all, there are eleven styles and seven sizes of Challenge cutters. These range from lever cutters in bench and floor models . . . to power cutters with hand or hydraulic clamp. Each of these cutters has been perfected by Challenge engineers to give your operator ***maximum protection . . . more working freedom . . .*** and ***precise control of cutting operation.*** And to ***you*** — whatever your shop size — a Challenge cutter is a long term investment that pays off in less maintenance . . . more profitable cutting.

See your Challenge Dealer for a free demonstration or write for specific information. 701-R

Challenge 265-305 Lever Cutter



Challenge 265-305 (Hydraulic Clamp) Power Cutter

Challenge Pony Lever Cutter

THE CHALLENGE MACHINERY COMPANY

Office, Factories and Show Room:
GRAND HAVEN, MICHIGAN

Over 50 Years in Service of the Graphic Arts

DEALERS IN ALL PRINCIPAL CITIES

Challenge
TRADE-MARK ®

PRINTING EQUIPMENT *Engineer*

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

Volume 82 **Number 7**

PRINTING EQUIPMENT Engineer, Published monthly at 1276 West Third St., Cleveland 13, Ohio, Copyright 1952 by Willsea Publishing Co.

EDITORIAL STAFF

MacD. SINCLAIR, Editor

ADAM HENRY REISER
Associate Editor

EDWARD H. OWEN
Assistant Editor

BUSINESS STAFF

DON WILL, Publisher

William L. Osborn, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone: MUrray Hill 6-5980.

Melburn O. Simmons, Mid-West Manager, 333 North Michigan Ave., Chicago 11, Ill. Phone: DEarborn 2-6467.

Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issue $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. currency). Subscriptions in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment Engineer under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation ECA Controlled Audit

Acceptance under section 34.64 P. L. and R., authorized.

Printed in U. S. A.

LEADING ARTICLES

for April 1952

Iron Plating Electrotypes and Stereotypes 27
AXEL LUNDBYE

Singletone r.o.p. Newspaper Color from Plastic Plates 30

Editorial: A Thought for the Commercial Plant Executive 33

Equipment and Supplies 34
- Floor Matting, 34
- Register Checking Rules, 34
- Kodak Filters Booklet, 34
- Lens Tissue, 34
- Gas-Oil Burner, 34
- Lighting Unit Produces True Daylight, 35
- Printing Press Drive System Improved, 35
- Force-Dry Varnish, 35
- Humidity and Temperature Indicator, 35
- Blanket Thickness Gauge, 35
- Copyflex Process, 35
- Machine Parts Cleaning Process, 36
- Color Roll Film, 36
- Rapid Trimmer Bulletin, 36
- Linotype Spartan Family, 36
- Steel Truck Casters, 36

Newspaper Plant Modernized 37
ALVAH H. CHAPMAN, jr.

The ABC of Offset—Series Two, Chapter IV 41
GEORGE JOS. LENZER

Matrix Alignment—Hair Lines 44

Reduction of Maintenance 46
TED GARDINER

A Test For Water in Alcohol 47

From Black to Yellow in one Press Wash-up 48

Abstracts of Papers to be Delivered Before TAGA 50

Mid-Atlantic Conference Considers Today's Problems 52

Western Div. (SNPA) Conference . . . 56

Patents For the Graphic Arts 59

Executive Paragraphs 63

NPA Printing and Publishing Div . . . 67

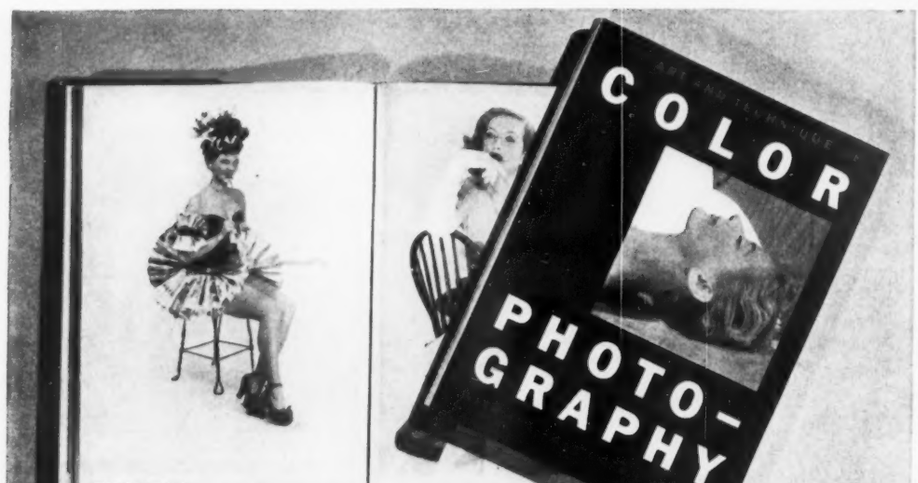
Conference Dates 68

Books 71
- Pressman's Ink Manual, 71
- Production in Advertising, 73
- Selling to Industry, 74

IPI, Everyday, Gemtone and Holdfast are trademarks of Interchemical Corporation.

INTERCHEMICAL CORPORATION • PRINTING INK DIVISION • 67 WEST 44th ST., NEW YORK 18 • ADDRESS DEPT. A

CONDÉ NAST PICKS IPI INKS FOR PRIZE BOOK "ART & TECHNIQUE OF COLOR PHOTOGRAPHY"



New Simon & Schuster Book Is Treasury of Fine Color Photos with Technical Data

Want to see superb process printing of fine photos and learn a lot about color photography at the same time? Then don't miss that new Simon and Schuster book, "*The Art & Technique of Color Photography.*" Beautifully printed by The Condé Nast Press with IPI process inks and blacks, it's truly outstanding—has 195 full color plates plus 27 pages of technical information by staff photographers of *Vogue, Glamour, House & Garden.*

As a leader in publication printing, The Condé Nast Press demands and gets the finest inks to match its outstanding craftsmanship and printing know-how. They depend on IPI inks to help them capture the true spirit of color photos—even difficult subjects.

Colors Sparkle, Every Dot Sharp, Highlights Bright

The striking beauty of each photo in this treasury is something to see. Colors sparkle, dots are sharp and clean, highlights bright. The entire book has an unusually fresh and crisp look.

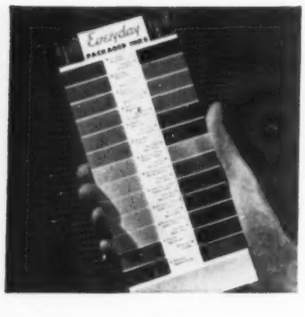
Technical Data

For such remarkable results The Condé Nast Press *used IPI process inks in standard P.I.A. colors* especially made to suit their plant equipment.

Printing was done on Harris 2-color sheet-fed rotary presses in 16 page *combination* forms. No engraving was given individual inking; four subjects printed in each row. Sequence of colors: red and black followed by yellow and blue.

FREE EVERYDAY COLOR CARD SPEEDS SERVICE, CUTS COST FOR COLOR PRINTING

Don't be old fashioned, be up-to-date with the IPI Everyday Color Card—it's your guide to the most efficient method of ordering and stocking inks. Handy to use, it shows all 25 regular Everyday colors. Send for your free copy today—you and your customers will profit by its use.

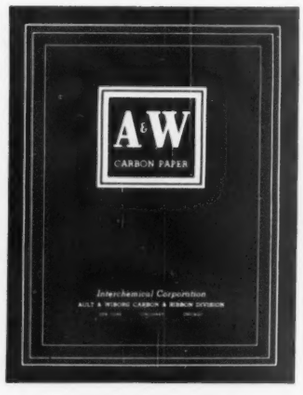


NEW IPI GLOSS INKS GIVE A & W CARBON PAPER FOLDERS FINER, BRIGHTER FINISH

Top-flight results from IPI inks are nothing new to Ault and Wiborg Carbon and Ribbon Division of Interchemical Corp.—they are expected. But the latest A & W carbon paper folders printed with our new gloss inks made them take notice.

The new folders are outstanding—have extra gloss for a finer, brighter finish. That's because IPI gloss inks have greater pigment strength for better, smoother coverage with thinner ink films—dry so fast that little varnish is lost through penetration.

For these remarkable folders, printer chose IPI gloss red inks, ran the job on a Kelly C press at 3000 iph. Ask your IPI salesman to show you his copy of the new A & W folders.



Here's another beautiful job printed with new IPI gloss inks. This time it's A & W carbon paper folders—in smooth, bright red, they really stand out. That's because new grinding techniques and ingredients used in IPI gloss inks permit higher pigment concentration with thinner ink films.

Advertisement

EXPRESS
SHIP IMMEDIATELY
E. Marigold Company
5642 Oakdale Avenue + + Chicago 50

EXPRESS
SHIP IMMEDIATELY
E. Marigold Company
5642 Oakdale Avenue + + Chicago 50

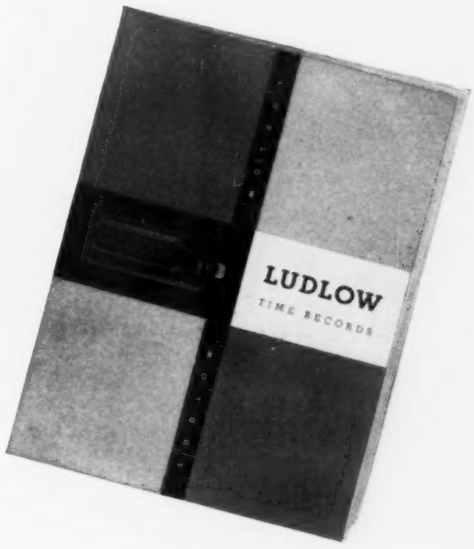
EXPRESS
SHIP IMMEDIATELY
E. Marigold Company
5642 Oakdale Avenue + + Chicago 50

EXPRESS
SHIP IMMEDIATELY
E. Marigold Company
5642 Oakdale Avenue + + Chicago 50

Here's the Proof...

The label job shown here aptly illustrates savings of time and labor through multiple casting from a single setting of four lines of Ludlow matrices. It is only one of a dozen examples of various kinds of Ludlow composition produced at the recent Graphic Arts Exposition held in Chicago. All these jobs are shown in a new booklet just released, entitled "Ludlow Time Records." Also shown are the actual time for setting, casting and make-up, and a description of how each job was produced. Your own compositors should equal or improve upon these results with a Ludlow installation.

"Ludlow Time Records" will be sent you on request. Write for your copy to Dept. B



Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

EXPRESS
SHIP IMMEDIATELY
E. Marigold Company
5642 Oakdale Avenue + + Chicago 50

EXPRESS
SHIP IMMEDIATELY
E. Marigold Company
5642 Oakdale Avenue + + Chicago 50

CONFIDENCE in the high quality of final printing results can be assured . . . even before plates go on the press . . . if plates are proofed on this Cottrell-Claybourn Curved Plate Proof Press.

Foundries and pressrooms save hours of idle press time by use of these proof presses . . . exact replicas in printing technique and cylinder diameter of the modern rotary press. A proof pulled on them without makeready and on hard packing is genuine evidence of plate printing quality.

These presses are also invaluable for preparation of treating matrices and pre-press makeready to reduce press down time. Made for any plate, cylinder size. Let us send you complete descriptive folder.

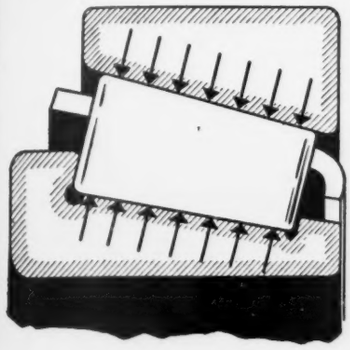
C. B. COTTRELL & SONS COMPANY
Westerly, Rhode Island

Claybourn Division: Milwaukee, Wisconsin
Sales Offices: New York, Chicago, London

6 problems you can solve with TIMKEN® bearings

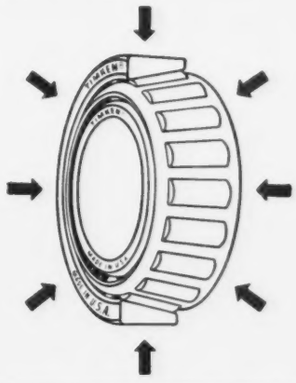
HEAVY LOADS

Loads carried on the rollers and races of Timken® bearings are spread evenly over a line of contact. This greater load area assures extra load-carrying capacity.



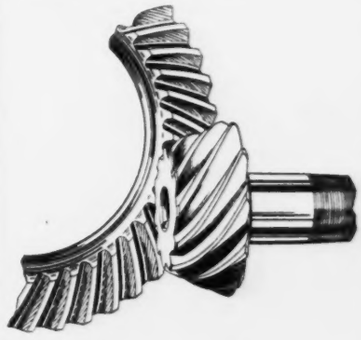
COMBINATION LOADS

Due to their tapered design, Timken bearings carry radial and thrust loads in any combination. No auxiliary thrust bearings or plates are needed.



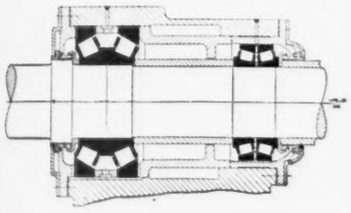
PRECISION

Timken bearings hold shafts in positive alignment, prevent end-movement, minimize deflection. Gears mesh precisely, assuring a smooth flow of power.



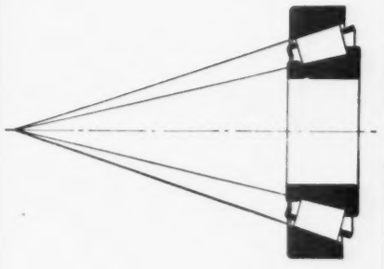
MAINTENANCE

Closures are more effective because Timken bearings keep housing and shaft concentric. Dirt and grit are kept out. Lubricants are kept in.



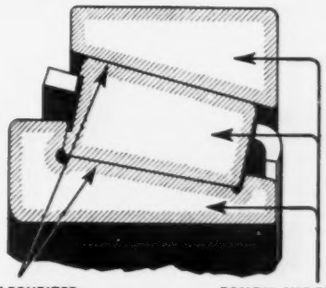
FRICTION

Timken bearings roll freely due to true rolling motion. Lines coincident with tapered surfaces of rollers and races meet at a common point on the bearing's axis.



WEAR

Rollers and races of Timken bearings are made of Timken fine alloy steel—case hardened for a hard, wear-resistant surface and tough, shock-resisting core.

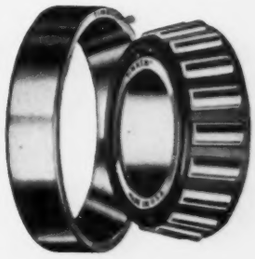


Be sure to specify Timken roller bearings for the machines you buy or build. Look for the trade-mark "TIMKEN" on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

TIMKEN

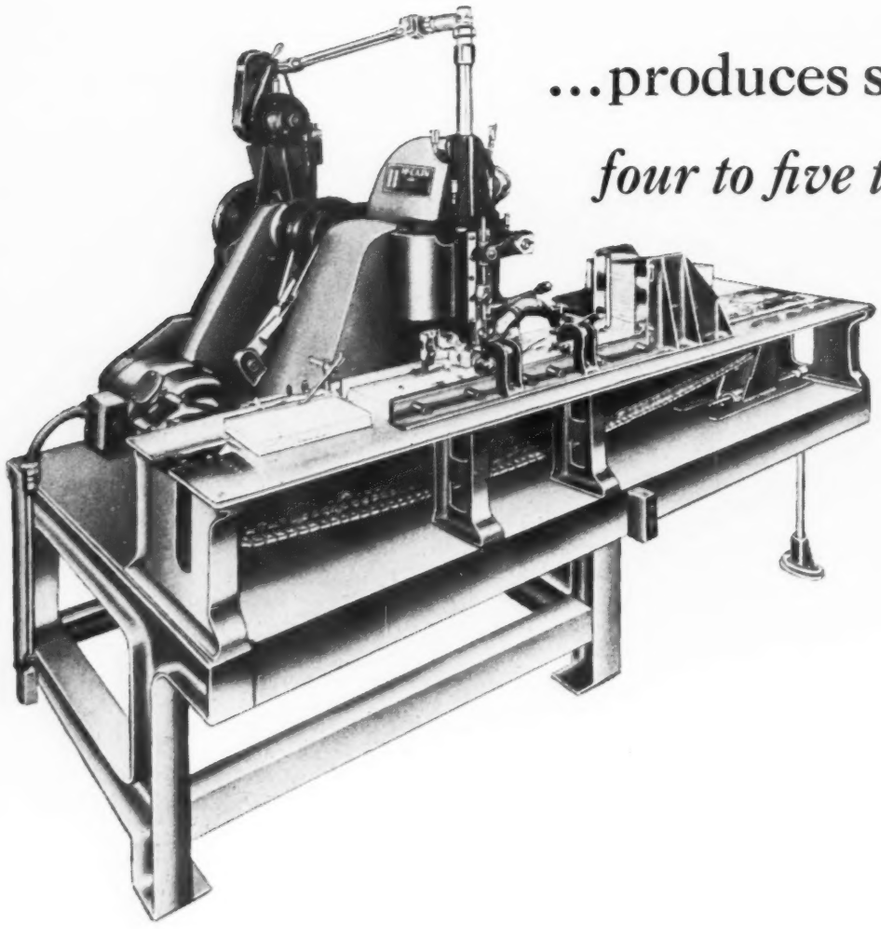
TRADE-MARK REG. U.S. PAT. OFF.

TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ↓ AND THRUST →◎← LOADS OR ANY COMBINATION ✳

The McCain Book Side Sewing Machine



...produces sewn bindings *four to five times stronger* than those made by conventional methods!

At its normal operating speed, this machine delivers 250 one inch stitches per minute, on books from 3/16" to 2" thick, 5¼ to 15" long on backbone, pages 4" minimum, 11" maximum width.

Its kind of sewing makes bindings four to five times stronger than those produced by conventional sewing methods.

Books more than ¾" thick are drilled one half from above, one half from below. Drill chips are removed by vacuum process. Thread is lubricated with liquid soap. Single thread is used, so bobbin needs no replenishing.

Added strength is secured by gluing bottom row of stitching. End sheets and reinforcing strips are sewed right in. Separate color and halftone pages are jogged and sewed into the complete unit.

The machine is easily adjusted, cleaned and lubricated.

Write for more information about this method of producing much stronger bindings, at the same time raising production by a liberal percentage.

Dexter · Christensen · McCain

Modern Machines for Printers and Binders

DEXTER FOLDER COMPANY, General Sales Offices 330 W. 42nd St., New York 18, N. Y.

Branch Offices, Domestic and Foreign Agents

ROP COLOR is "Snowballing"

Here's an interesting example of the remarkable interest being taken in ROP color advertising in newspapers.

In a recent issue, *Printers' Ink* published a 48-page "Task Force report" on COLOR IN ROP NEWSPAPER ADVERTISING; a symposium discussing the steadily increasing use of color, its effectiveness in newspaper advertisements, and technical improvements in color production.

Included in the report was a list of 175 newspapers which now offer full ROP color; 77 offering two colors and black; 294 offering one color and black — a total of 546 daily newspapers in which advertisers are using ROP color.

The HOE COLOR-CONVERTIBLE NEWSPAPER PRESS — already in use by many of the leading newspapers offering ROP color — is playing an important part in this development, since it is designed so it can be installed with only such color facilities as will be required when the press is placed in operation.

Then whenever advertising demands necessitate more ROP color facilities, additional color cylinders, duo ink rails and cylinder reversing mechanisms can be installed at minimum expense, labor and down time.

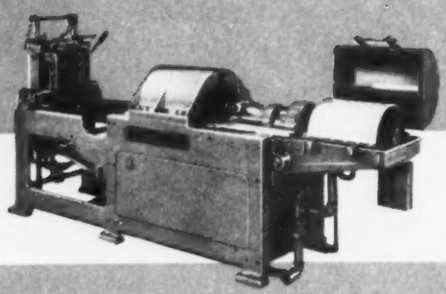
BUILT BY HOE BEST

R. HOE & CO., INC.

910 East 138th Street • New York 54, N. Y.

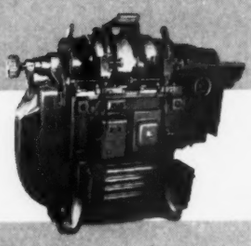
BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO • BIRMINGHAM • PORTLAND, ORE.

WOOD EQUIPMENT...



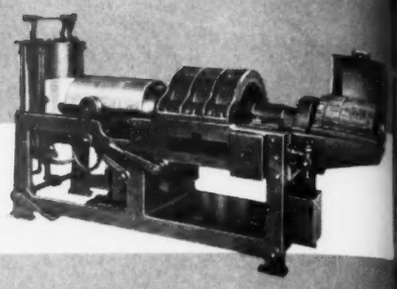
HEAVY DUTY PONY AUTOPLATE

Casts, shaves and cools stereotype plates. Includes vacuum casting system, water cooled arch, double page mechanism. Pneumatic pumping device available.



AUTOMILLER

Mills pockets for Tension Plate lock up. Used in conjunction with Pony Autoplate. Registers color plates cast in Pony, Junior, or Automatic.

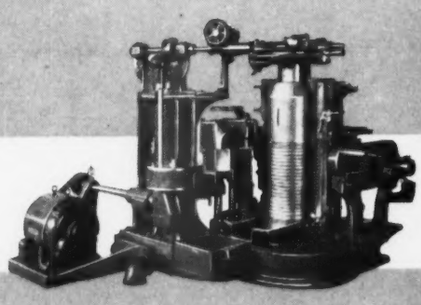


STANDARD PONY AUTOPLATE

Casts, shaves and cools stereotype plates. Vacuum casting system, water cooled arch and double page mechanism can be added. Pneumatic pumping device available.

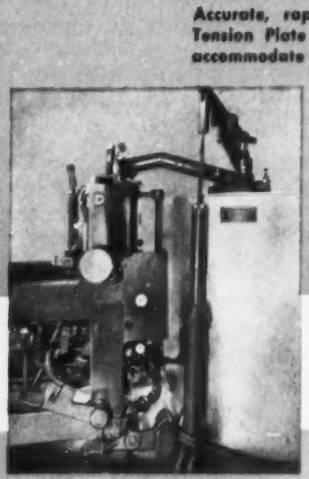
HEAVY DUTY AUTOSHAVER

Accurate, rapid plate shaving. Available with Tension Plate attachment for milling pockets to accommodate tension plate fingers.



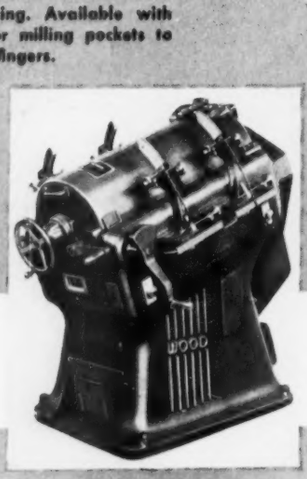
JUNIOR AUTOPLATE

Provides rapid, semi-automatic plate casting. Pneumatic pumping device available.



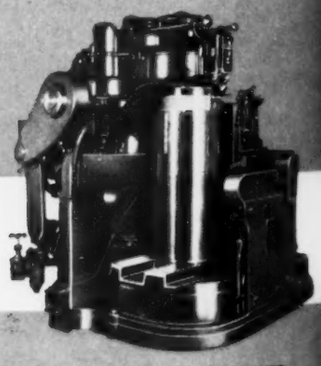
PNEUMATIC PUMPING SYSTEM

Safe, uniform, automatic pouring molten metal. Replaces hand lever operation. Adaptable to your present pump; works on compressed air.



COLOR PLATE PRE-REGISTERING MACHINE

Fast, accurate color plate registering for large editions of color newspapers.



AUTOMATIC AUTOPLATE

Casts and delivers, automatically, four plates per minute.

for America's Busiest Newspapers!

Whether you publish a big-city daily or a smaller-city newspaper, there's a piece of WOOD equipment that will help you print a better looking paper.

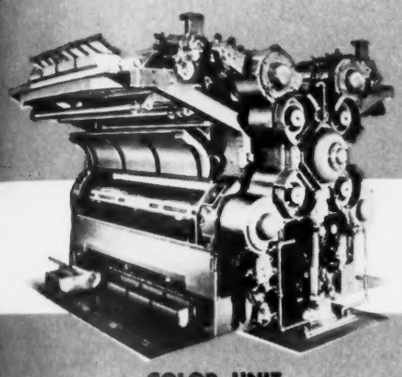
Presses, with or without provision for color, designed, engineered and built to meet your requirements. Pressroom equipment that speeds production by eliminating waste motion. And . . . the famous line of WOOD stereotype equipment. *Every machine TOP in its field!*

This is no idle boast. It's a cold, factual statement, being proved every day of the year in the plants of busy newspapers from coast-to-coast. We invite your inquiries and say, with pride, "If It's WOOD, It's Good."

IF IT'S Wood IT'S GOOD

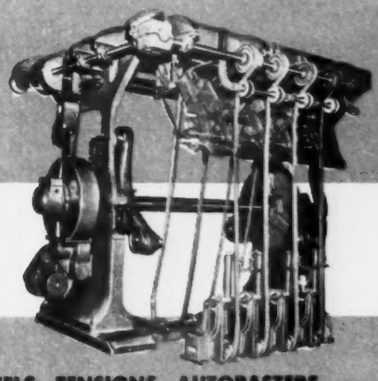
WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17



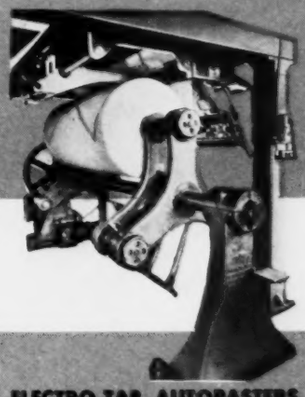
COLOR UNIT

High speed rotary press with provisions for color. Designed to print newspapers of larger circulation.



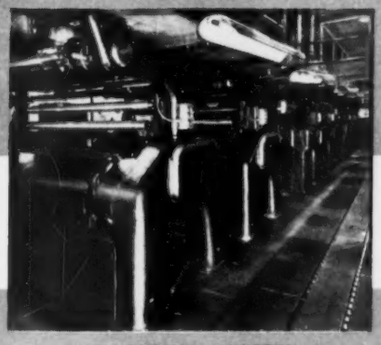
REELS, TENSIONS, AUTOPASTERS

Precision reels, automatic web tension control and automatic web splicing equipment. Reels, Tensions, Autopasters also available in a self-contained frame.



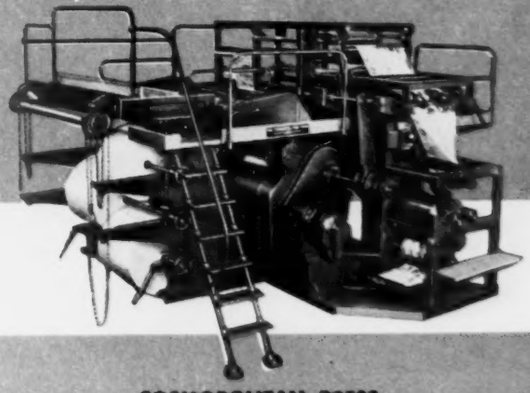
ELECTRO-TAB AUTOPASTERS

Dependable web splicing equipment that can be installed on any make reel.



NEWSPAPER PRESSES

For printing large editions in black and white.



COSMOPOLITAN PRESS

High speed rotary press with Intrasorter for printing smaller-city newspapers. Provides for use of color in regular editions.

Only Mercury Rollers give you this 5 star performance. . .

RAPID ROLLER CO.

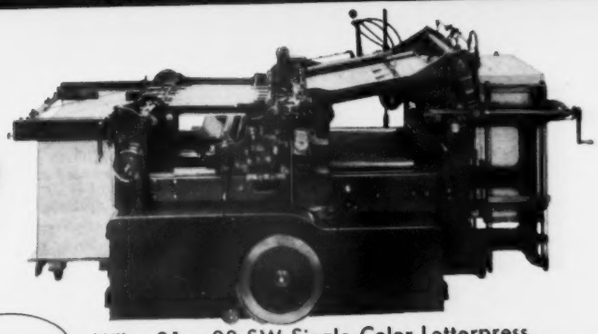
FEDERAL AT 26TH
CHICAGO 16, ILL.

D. M. RAPPORT
PRESIDENT

The Companion Presses

Miller 21 x 28 TW Two Color Letterpress

miller



Miller 21 x 28 SW Single Color Letterpress

Pittsburgh, Pennsylvania

No press built today provides its user with greater intrinsic and competitive value than the Miller 21 x 28 TW Two-Color Letterpress or the 21 x 28 SW Single Color.
Each of these presses combines the basic Miller design with a degree of rugged strength and accessibility never previously available in a small automatic cylinder press.
Further particulars on either of these presses will gladly be provided upon request.

MILLER PRINTING MACHINERY CO.
1103 Reedsdale Street

THE DAYTON DAILY NEWS
Another KROGER first
Rich, fragrant French Brand Coffee is now
PRE-GROUND
Hot-Dated and sealed in an air-tight package to keep it
VACUUM-FRESH!
The HOT-DATE on the bottom of the bag is your guarantee of really fresh coffee
The moisture-proof bag seals in all the rich, LIVE FLAVOR... keeps it roaster-fresh
Your choice of DRIP or REGULAR grind
GROUND DRIP GRIND
KROGER HOT DATED
FRENCH BRAND COFFEE
Kroger
Kroger LIVE FLAVOR comes alive in your cup It's the coffee everyone is drinking up!
lb. 81c
Another reason why it's smart to shop at KROGER and LIVE BETTER FOR LESS!

See how *COLOR SELLS* when printed with DAYCO Newspaper Rollers!

Yes, newspapers *can* produce color work that is sharp and bright! Color work that advertisers want and will pay for! Color work *that will* increase overall advertising revenues, and PROFITS! Dayco Newspaper Rollers will do it . . . for any paper, *your paper!* ©D. R. 1952

Dayco Rollers take top speeds . . . and resist the extreme heats of the fastest presses. They handle *any color* as well as black-and-white. And their rugged strength assures long service!

Exclusive compounding and grinding processes give Daycos precise diameters, and eliminate high and low spots. Permanent diameters reduce resetting to a minimum. And the Dayco Roller's surface is ultrasmooth, mirror-like. It produces clean impressions, with clear type, sharp dots in finely shaded halftones, and unusually strong solids.

Dayco Newspaper Rollers will solve all your printing problems and *increase your profits!* Write for the proof . . . TODAY!

Dayton Rubber

Since 1905

DAYTON RUBBER COMPANY, DAYTON 1, OHIO

Pioneers of Improvements for Better Printing . . .

Dayco Rollers, Blankets, Color Separators, Fountain Dividers . . . for Newspapers, Letterpress, Offset

It's a Hamilton

Hamilton Rotary Web Press, 17" x 15", three color, one web, equipped for roll rewinding. Simple make-ready makes this a preferred press for short runs. For efficient assembly investigate the high speed Hamilton Collator. **We will be happy to supply you with a free copy of our Bulletin No. HP-501 on request.**

♥ *Love* THAT APPLAUSE! ♥

The confidence you have shown in our ability to provide you with the very finest in business form and long run, standard size job printing equipment, evidenced by your willingness to wait longer for delivery of your Hamilton Press, is as balm to our aching backs.

The recent doubling of our press assembly space hardly offsets the recent tripling in orders received; but we love your applause, and we are even now investigating further means for speeding our precision production to meet your demands. Our aim is to win your approval for our deliveries as we seem to have done for our product. *LOVE that applause!*

Hamilton

THE *Hamilton* TOOL COMPANY
910 HANOVER STREET • HAMILTON • OHIO • U • S • A

fine graphic arts equipment . . . for <u>everybody's</u> profit

HARRIS-SEYBOLD

for the cutting machine operator . . . profit

Once set for the cutting series, the Seybold Auto Spacer automatically positions the paper for every cut; its power back gauge does the heavy work—steps up production for the operator. He can do a better job each day with less fatiguing effort. That's part of his profit.

for the plant owner . . . profit

Cutting and trimming is important in the day's production. Errors here could spoil a completed press run; speed here can step up deliveries. Seybold's capacity to produce enables a plant to handle more business profitably.

for the printing buyer . . . profit

Customers rarely view press sheets, but they do examine the finished job for its clean, square cut and exact trim. For example, wrapping machines demand precise trim for speed and economy in handling the finished pieces. That's where a Seybold's accuracy pays off.

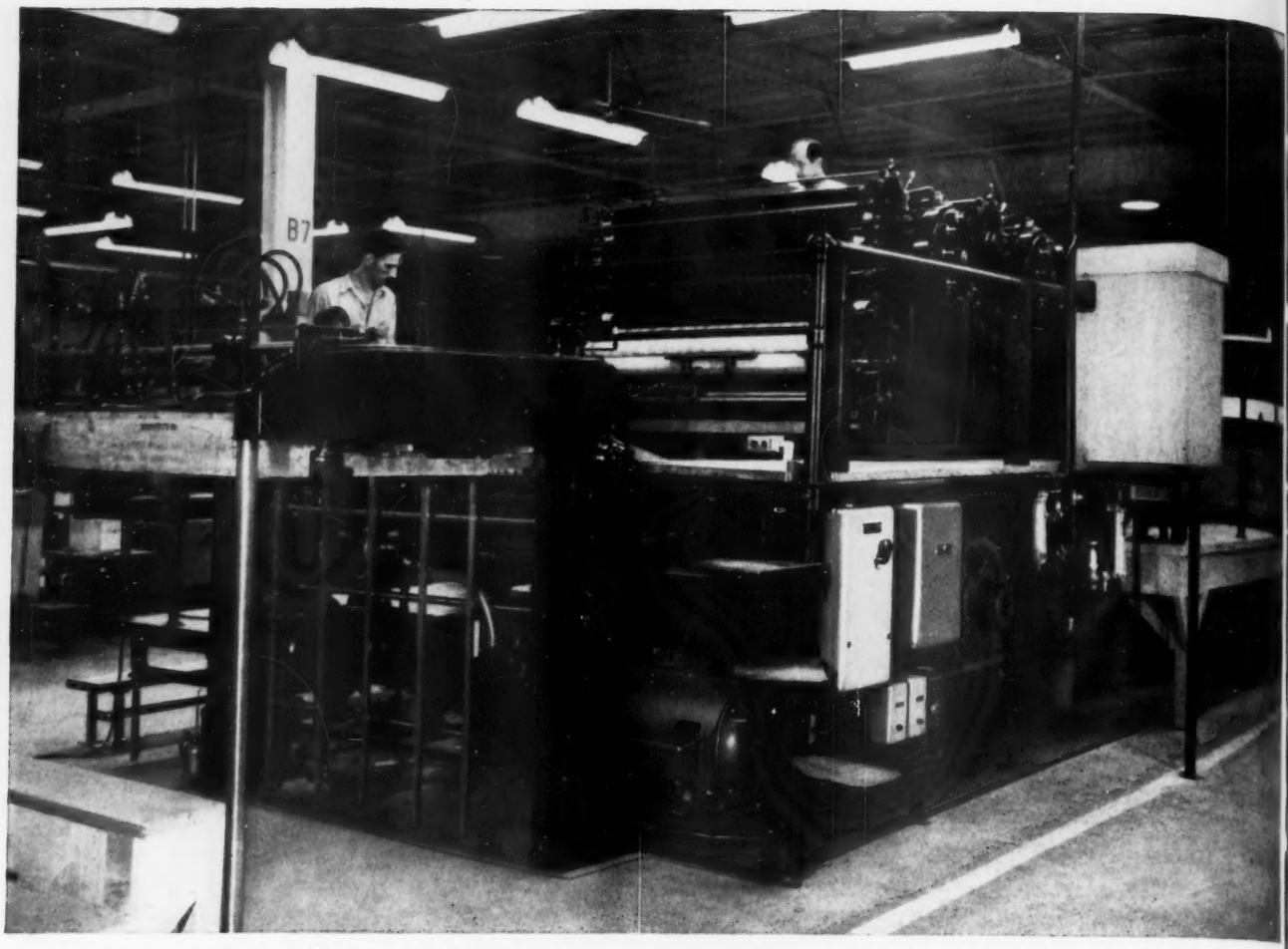
for the man who sees and buys . . . profit

One of the most important factors in today's mass-marketing is fine sales literature, labels and wrappers. Mass-producing this kind of printing (aided by machines such as automatic spacers) has helped bring more goods to more people at less cost. In short—profit.

* * *

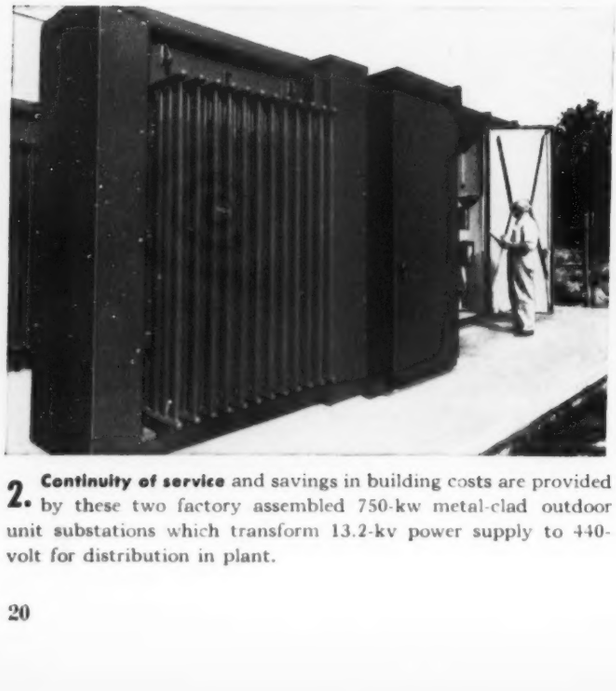
Commercial printing is basic in America's economy—it profits everyone. Specifically, our part in it includes: power paper cutters, offset lithographic presses, rotary letterpresses, paper drills, bindery equipment, litho-chemicals and other fine graphic arts equipment. Consult Harris-Seybold in all principal cities or at 4510 East 71st St., Cleveland 5, Ohio.

SEYBOLD AUTO SPACER PAPER CUTTER AT KALAMAZOO VEGETABLE PARCHMENT COMPANY, KALAMAZOO, MICHIGAN
COLOR PHOTOGRAPH BY CORNELIUS



1. Completely press mounted this 25 hp G-E Adjustable Speed ACA press drive, one of 26 similar drives at Lord Baltimore, saves power and space, offers versatility of d-c power direct from a-c power on this Harris 258 (LTL), offset press. Drive consists of 25 hp ACA motor, press mounted resistorless control, auxiliary magnetic starters for feeder and delivery motors, and magnetic amplifier. Pilot motor (on top of ACA motor) provides fingertip preset speed adjustment at operator's stand.

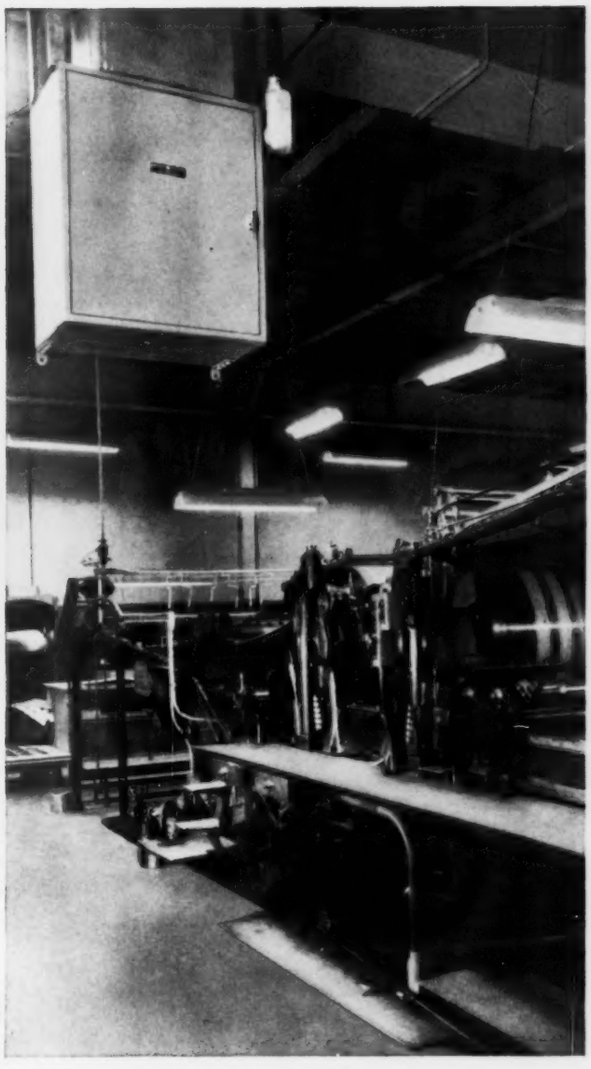
LORD BALTIMORE PRESS: G-E POWERED



2. Continuity of service and savings in building costs are provided by these two factory assembled 750-kw metal-clad outdoor unit substations which transform 13.2-kv power supply to 440-volt for distribution in plant.

3. Production insurance, maximum protection for personnel, ease of maintenance, and instantaneous inspection are provided by this G-E Metal-clad switchgear which affords centralized protection of 440-volt power distributed to plant areas.

4. **Amplistat Control** (right panel) provides almost infinite preset speed control without tubes or moving parts. All controls for press are shown. Note absence of resistors making possible press mounting of control without drying out rolls.



5. **This 30-year-old** 2-color Miehle 5/0 flatbed was converted to a-c with addition of new G-E wound rotor motor drive. Note control (upper left) with resistors mounted on top to remove resistor heat from controller, thus reducing contact deterioration.

FOR QUALITY PRINTING AT TOP SPEED

Modern $2 million plant requires advanced electric system engineering

Modern plant construction at the Lord Baltimore Press presented several electrical problems: suspended roof construction saved floor space but eliminated columns near the presses on which to mount press control.

Also, to keep air conditioning costs down, variable speed press drives with minimum heat dissipation were needed, and to further magnify this problem, operators desired d-c performance from a-c power.

This is why Hugo Dalsheimer asked G.E. to investigate their needs early in planning. The solution: G-E ACA press drives—highly efficient because of resistorless speed control and easily press mounted due to small size and absence of resistor heat—on all presses that would accommodate them.

PRESS-MOUNTED DRIVES RUN DIRECT FROM A-C POWER

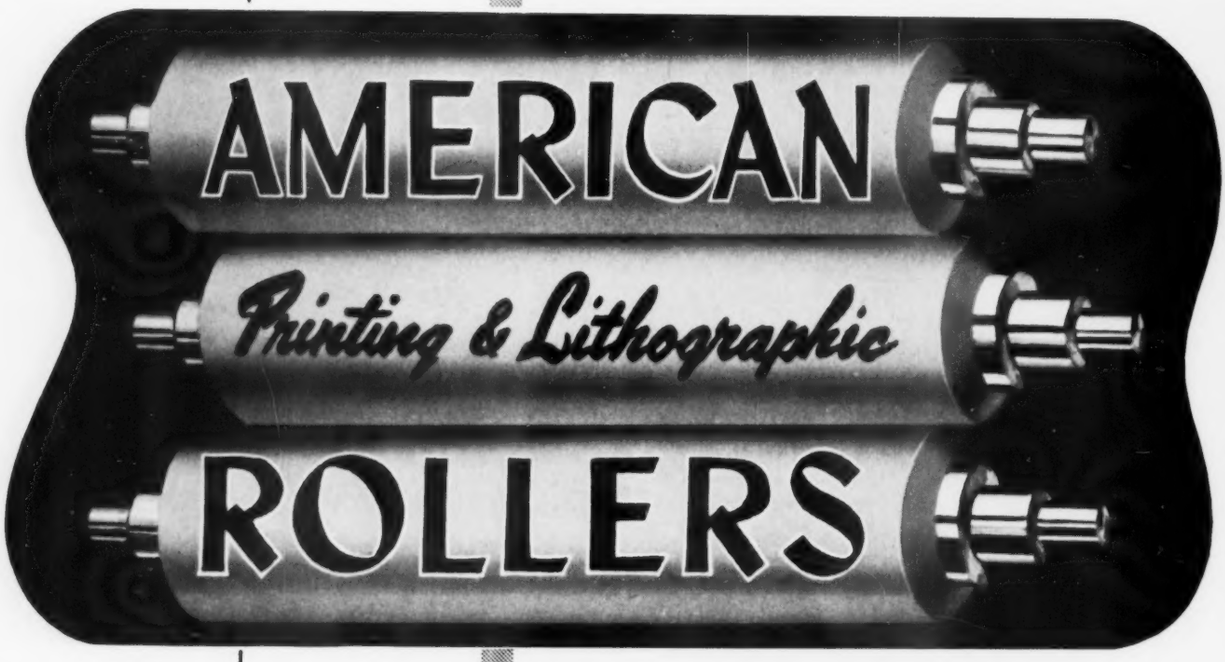
Operating direct from a-c power, Lord Baltimore's new compact, press-mounted ACA's permit the selection of maximum press speeds for each job with no undue spoilage or loss of quality. The operator achieves optimum production for each run because of wider speed ranges, essentially constant preset speeds despite load changes, and accurate speed adjustment.

MAKE STUDIES EARLY IN PLANNING

Printing plant power systems require investigation of many details. Take full advantage of G.E.'s extensive experience in your industry. Contact your G-E sales representative ***early in your planning***. Meanwhile, send for Bulletin GEA-5568 "ACA Adjustable-Speed Press Drives." ***General Electric Company, Schenectady, N. Y.*** 633-19

GENERAL ELECTRIC

Designed for enduring performance...



ALL-SYNTHETIC
RUBBER ROLLERS
COMPOSITION ROLLERS
LITHOGRAPH ROLLERS
MAKE READY PASTE
PADDING GLUE
LONG LYF ROLLER
DRESSING

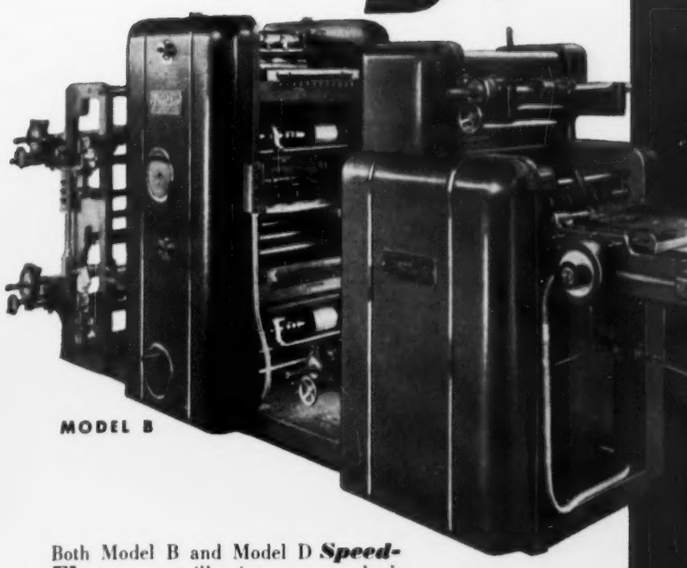
ORDER
SUMMER
ROLLERS
NOW!

and built to produce it consistently!

AMERICAN ROLLER CO., *1342 N. Halsted, Chicago 22 • 225 N. New Jersey, Indianapolis 4.*

Speed Flex

FASTEST AND MOST MODERN JOB PRESS



MODEL B

...designed to meet the requirements of the average printer

Both Model B and Model D ***Speed-Flex*** presses will print on one or both sides of the paper, number and imprint in an additional color, perforate both ways and attach carbon, and deliver work sheeted to 17" lengths at speeds up to 20,000 per hour.

The Model B ***Speed-Flex*** will complete a two-part form in one operation. It can handle two webs and two carbons. Both models can be webbed up to produce an unbelievable number of combinations of colors, numbers, perforations, and pasting.

In fact, ***Speed-Flex*** is the ideal job press for the production of unusual forms and carbon interleaved work. A ***Speed-Flex*** will make your shop hum and put new life into your sales organization.

MODEL D

Speed-Flex presses are manufactured for Orville Dutro & Son, Inc., in the modern facilities of Western Gear Works, oldest and largest manufacturer of gear products in the west.

For complete information on ***Speed-Flex*** presses, write or call Orville Dutro & Son, Inc.
1206 Maple Ave., Los Angeles 15, California

SOLD EXCLUSIVELY BY:

ORVILLE DUTRO & SON, Inc.

1206 MAPLE AVE., LOS ANGELES 15, CALIF.

PHONE RIchmond 9377

MANUFACTURED BY:

5141

WESTERN GEAR WORKS

Manufacturers of **PACIFIC-WESTERN** Gear Products

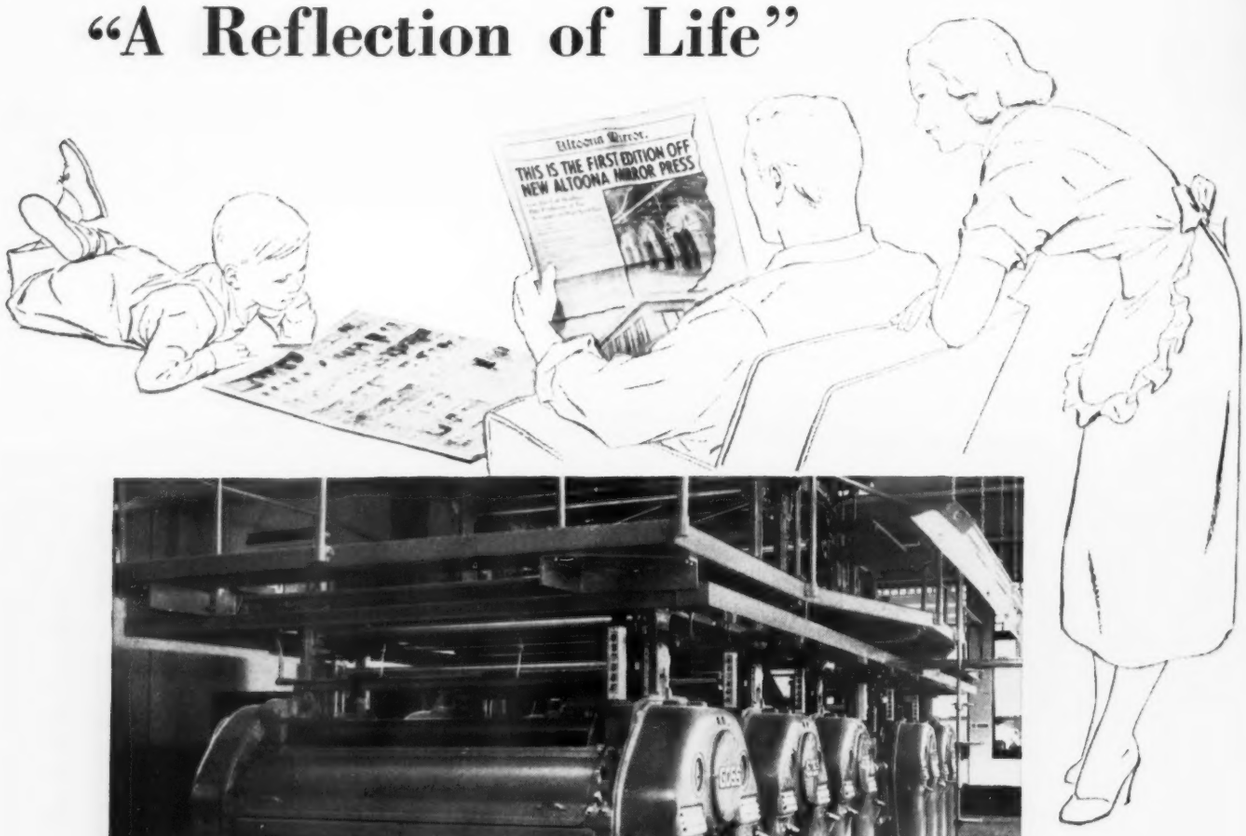
Pacific Gear & Tool Works

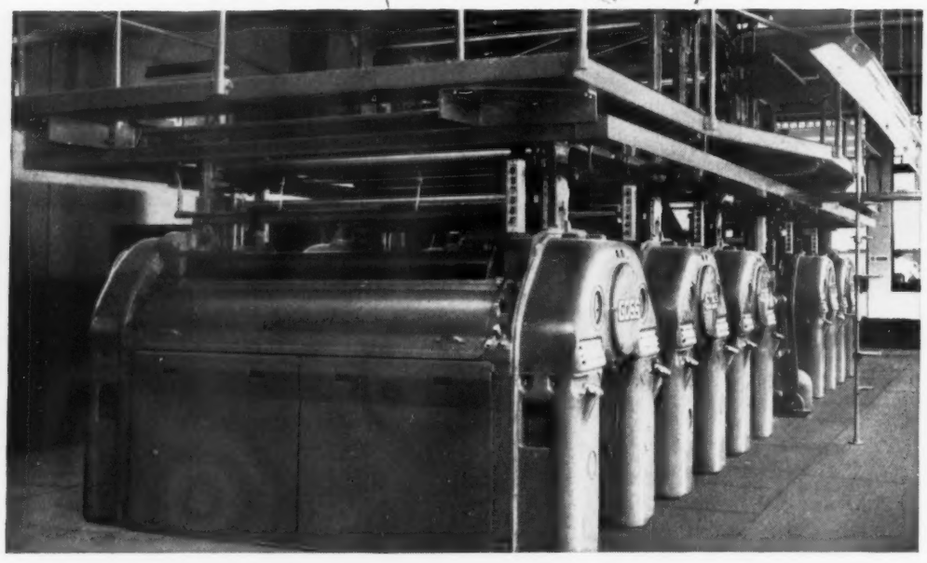
Plants: Seattle, San Francisco, Lynwood (Los Angeles County), Houston

Representatives: Portland, Denver, Vancouver, B.C.

AMERICA'S LEADING NEWSPAPERS ARE PRINTED ON GOSS PRESSES

"A Reflection of Life"





Altoona Mirror.

becomes brighter, bigger, better than ever — printed on new Goss Headliners

The Altoona Mirror reflects its 77 years of steady growth in the succession of presses it has used—each in turn a little larger, faster, more modern than the press it replaced.

This hand-in-hand progress of the Altoona Mirror and its presses was fittingly climaxed January 17, 1952, when for the first time its newest, finest, fastest presses—GOSS HEADLINERS—rolled into action.

Housed in a newly acquired 3-story building, the installation consists of five Headliner units and one pair of Uni-Flow Folders. Everything necessary to insure quality printing, color, speed, and easy operation is provided in the Goss equipment. Features include: full range color flexibility; fingertip Colortrol; fully enclosed automatic lubrication; preloaded cylinder and form roller bearings; enclosed oil tight folding motion; and streamlined styling.

THE GOSS PRINTING PRESS CO.

1535 S. Paulina St., Chicago 8, Ill.

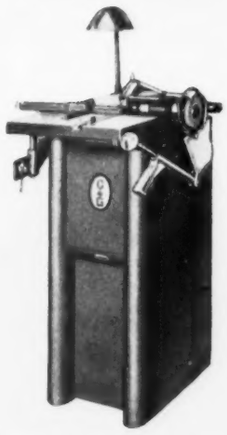
Goss Printing Press Co. Ltd., Preston, England

it's **GOSS** *again*

FOR COMPOSING ROOM $AVING$

LOOK into the advantages of
MORRISON *Saw Trimmer and Allied Machines*

MORRISON MODEL 45 SAW TRIMMER

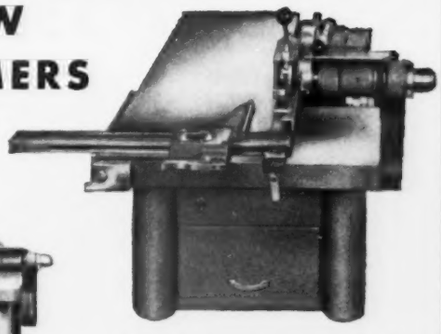


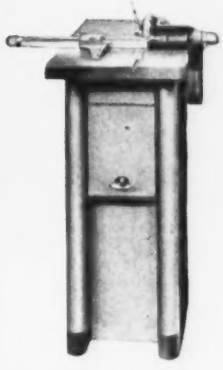
With pistol grip saw blade attachment. Features "Trigger Speed" saw adjustment.

MORRISON SLUG STRIPPER

"Proves itself to the men, within 24 hours." Makes it easy to strip the face of any slug or type character to the exact thickness needed for base heights.

MORRISON "45 SPECIAL" SAW TRIMMERS





Available in two models—bench or cabinet

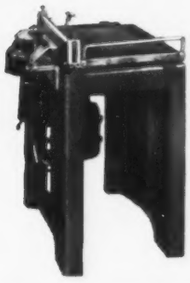
—offering composing room versatility and production savings.

A low-cost saw trimmer that embodies most of the features of the higher priced Model 45 and Model 3-A, the "45 Special" is designed to bring Morrison saw trimming efficiency within the reach of **every** composing room.

Famous "behind-the-gauge" work clamp is standard equipment, conventional clamp can be supplied where desired. The simplified elevating of the saw arbor makes the change from trimming position to plate cutting position almost instantaneous. Many parts and attachments interchangeable with Models 45 and 3-A.

MORRISON MODEL 3-A SAW TRIMMER

Today's more versatile saw. Clamps the work **behind gauge** for improved visibility, easier handling, and greater accuracy. A must for economy-minded composing rooms.



MORRISON PLATE BEVELER

Puts a perfect, burr-free shoulder or bevel on all plates. Cutters work from edge of plate, not the top.

MORRISON ROUTER AND TYPE HIGH PLANER

Saves time in making corrections and changes, saves make ready time by having all cuts precision height. Has exclusive Morrison micrometer height gauge. allows routing to center of a 34″ cut.

Other Morrison Equipment includes: Strip material cabinets, waste receptacles, Universal saw blades, router bits, and jig saw blades

Symbol of Operating Economy

THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY

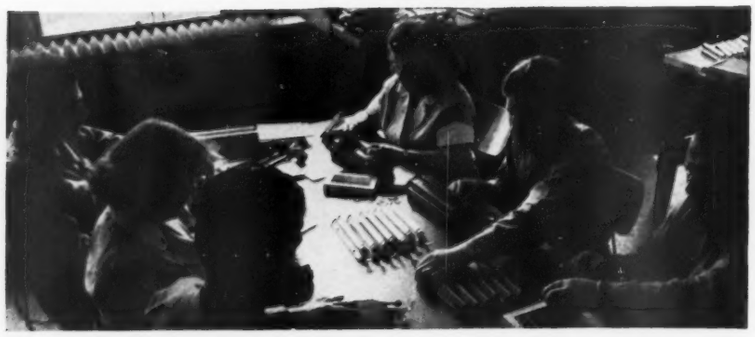
PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. Melvina Street, Milwaukee 12, Wisconsin

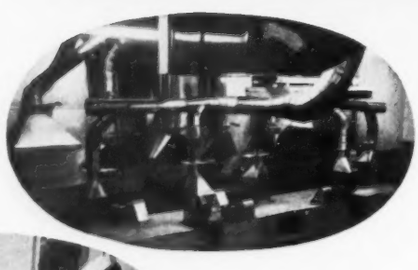
No-Fuss-No-Muss-----

----------WITH----- **MATRIX CONTRAST**

SERVICE



New fonts and sorts shipped from matrix manufacturers are checked against customer's color charts before applying color.



Modern processing rooms in Matrix Contrast plants where matrices are treated before application of colors.

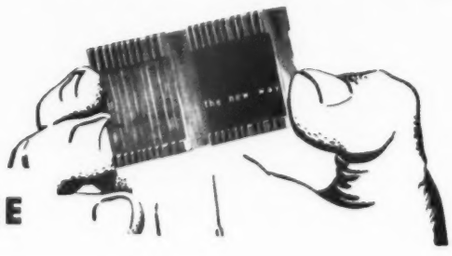
A Matrix Contrast Service Crew operating portable processing equipment in a newspaper plant.

Typical Matrix Contrast Service Truck which some of our 31 crews use to process matrices in your plant . . . day or night.

Dependable Matrix Contrast Service is the result of 27 years of specialized know-how. No fuss, no muss . . . It's clean, it's proven, it lasts.

There are six modern equipped service branches and 31 trained service crews ready to give prompt attention to processing your matrices.

When you buy Matrix Contrast Service, you get cleaning along with the processing of your matrices. Your present matrices are treated in *your plant* by our well-trained technicians without interrupting your plant schedules. In addition our New York and Chicago plants operate 24 hours a day to treat the reference marks on your new matrices.



Copyright 1951, Matrix Contrast Corporation

MATRIX CONTRAST SERVICE

MATRIX CONTRAST CORPORATION
154 West 14th Street, New York 11, N. Y.
326 W. Madison Street, Chicago 6, Ill.
1105 Trenton Street, Los Angeles 15, Calif.
European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.

Iron Plating

Electrotypes and Stereotypes

By AXEL LUNDBYE*

*Research, Kable Printing Co., Mt. Morris, Ill.

IRON plating for electrotype and stereotype plates was not in very extensive use up to the start of the second world war, but at that time, due to the scarcity of other metal such as nickel and copper, started to find its place about 1942 in the Graphic Arts Industry. When we talk about electroplating for the Graphic Arts, it is really electroforming, which is the art of producing electroplating shell from which to produce an electrotype. Of course, in case of stereotype, it is actually an electroplating process. Some of our government bonds and currency have been produced from nickel faced iron plates, electrolytically formed from engraved intaglios.

Many early attempts were made in trying to substitute iron face for the nickel and copper face used in electrotype printing plates. We see no reason why iron cannot be substituted for most of the nickel and copper used today in electrotype and stereotype manufacturing. With commercial iron anodes of very high purity, and very plentiful compared to nickel and copper, and the fact that iron anodes can be purchased for from 4c to 5c per lb., it can readily be seen why these iron plating baths have had great interest in the electrotyping industry. And we know by varying the concentration, the chemicals, the temperature and the current density, iron deposits can be obtained from a very ductile to a very hard and brittle deposit.

High Wearing Resistance

These iron deposits when produced right and used as a face for a stereotype have a very much higher wearing resistance compared to nickel, copper and lead. Many iron faced stereotypes have been run on experimental work, and results have been very encouraging runs in excess of 1,000,000 impressions. For copper-faced electrotypes, iron plated, more than 4,000,000 impressions have been obtained.

Chloride Bath

From 1941 to 1945, several iron baths were designed. One of the chloride baths was so designed that it would produce a soft and ductile material, with a higher wearing resistant factor. The chemicals for such a bath are as follows:

Approx. 50 oz./gal. of $FeC12$ (Ferrous Chloride).
It designates that the iron salts is one where the iron is divalent.

Approx. 25 oz./gal. of $CaC12\text{-}H_2O$ (Calcium Chloride Hydrated).
Or it could be: $CaC12 - 2H_2O$ or $CaC12 - 6H_2O$.

However, when these baths stand idle for any length of time, some of the ferrous chloride will tend to convert itself into ferric compound. Just before proceeding any further, let us make a statement: Iron with a valance of 2 has a ferrous compound, and iron with a valance of 3 makes ferric compound. The valance is known as Chemical Bond. It is a unit of force joining two atoms together in a molecule. It generally consists of a pair of shared electrons.

The concentration of the above can be varied over a wide range. However, the ferric irons (the trivalent iron) must be kept as low as possible. It can be used successfully at elevated temperature. At 185 deg. F. it is extremely efficient and should we attempt to have a current density of 60 amp./sq.ft. a temperature of 195 deg. F. can be used. Some excellent results with as high as 300 amp./sq.ft. have been attained. However, these very high current densities have been obtained under most ideal and exact controlled conditions. These baths must be maintained under slight acidity. That can be accomplished by adding HCl (hydrachloride acid) at predetermined intervals. The ideal acidity is when the bath contains 3.6 gram/liter of HCl—that is when the bath is under average current density. These conditions can easily be checked with an electric pH meter for satisfactory result. Fisher Alkacid paper can be used. Follow Fisher instructions for proper use. The pH range should be from 0.6 to 1.0. This range is considered ideal.

Air Agitation Is Taboo

There is one bad condition: It is that should the baths stand idle too long, it will be found that too much ferric chloride has been developed. It will be indicated by the color of the bath. When it is in good operating condition, it should be of a clear green color. As the ferric acid increases in the solution, it will take on a yellow tinge, and as the increase continues, it will finally go up to a very dark brown. This color change indicates the amount of ferric or oxide concentration—that is to say, that oxygen in excess of the content which the water holds by itself, will have a tendency to increase ferric acids. Therefore, air agitation should never be used in iron plating baths. If it is found that agitation is necessary, a gentle mechanical agitation should be used. However, should the bath have the above yellow tinge or dark brown color, it can be brought back easily to the original stage.

Reducing Procedure

Before using the bath for plating, a reducing procedure by the following treatment, which consists of adding in excess of HC1 (hydrachloride acid, also known as muriatic acid) is necessary. After the addition of this acid, let the bath stand for 24 hrs. or more. The treatment can be helped by warming the solution, and, to speed up the action still further, dummy cathodes can be placed in the bath under current flow.

Now, undoubtedly there are many other methods of reducing the ferric iron, but the one mentioned above is the approved method of today. The oxidation which takes place in the bath is quite low. It can be further retarded by removing the anodes when the bath is not in use. It can be helped further by keeping the acidity a little in excess when the solution is not being used. Organic substances should be kept away from the solution because they are very harmful. It is recommended that distilled water be used for making the bath. The makeup water should also be distilled to keep the organic substances down to a minimum. Inorganic materials will not affect the baths whatsoever.

After a little experience, the average electroplater of the caliber used in the electrotype industry should have no difficulty in maintaining and controlling this type of solution, especially if the bath is in regular use.

Again we repeat, *air agitation should never be used*, not alone because it produces oxidation, but it also tends to make the deposit brittle.

Another Plating Bath

In 1943, in the *Electrochemical Society Transaction*, W. B. Stoddard, jr., described another hot chloride plating bath which would also give excellent results when properly used. The chemical combination is shown in the accompanying Table I.

However, this solution should never be used under 160 deg. F. if a ductile plate is expected, and at this temperature a current density of 150 amp./sq. ft. is ideal. It has been found that presence of manganese chloride widens the pH and temperature spread considerably in a range where ductile deposit can be plated

TABLE I.
Hot Chloride Plating Bath

Ferrous Chloride	26 to 65 oz./gal.
Manganese Chloride	0.39 to 0.65 oz./gal.
Cardinol wetting agent	0.13 oz./gal.
Temperature range	160 deg. to 220 deg. F.
pH	1.5 to 2.5
Current density range	50 to 300 amp./sq. ft.
Cathode current efficiency	95%

out of this solution, and at the same time producing a deposit of small uniform grain size. Here it will also be noticed that there is given quite wide variation in the chemical content, temperature, and current density for these baths, but we consider the 165 deg. F. the ideal.

Corrosive Characteristic

One main drawback with this solution is the strong corrosive characteristic. This corrosive action increases as the temperature increases. Therefore, it is mandatory when hot chloride baths are used, to make the plating tanks out of acid-resistant material. If that is not done, the inside of the tank at least, should be coated with an acid proof coating. However, we do not consider that too good a construction and should only be used in an emergency, because when we coat a tank with an acid resistant coating, chances are that microscopic size holes will be found in the coating, and in that case, the solution will attack the tank proper. Therefore, it is recommended that it should be a rubber tank, or the tank should be built of acid resistant brick, or combination of both, and of course, pure iron anode must be used. Even if pure iron anodes are used, sometimes minute parts of the anode will not dissolve and are carried over to the cathode (the plate) and a rough deposit of a poor quality will result. Therefore, the bagging of the anode is a must. The best type of bag found so far, is the one constructed of a good grade of pure African asbestos cloth, or a woven glass fibre, or porous rubber can be used. The purpose of these bags is to filter out the solid particles which might migrate from the anodes.

The operation of elevated temperatures has been discussed so far, and elevated temperature in a bath is a drawback. Therefore, lots of time and energy have been put into designing an iron plating bath which will operate satisfactorily at room temperatures, and the following chloride bath has been found at room temperature or slightly above, to give a smooth, ductile, stain-free deposit. The bath is as follows:

Ferrous Chloride	30 to 34 oz./gal.
Potassium Chloride	22 to 26 oz./gal.

The variation given in the chemicals above is the preferred one, but good deposit may be obtained over a much wider range when one gets acquainted with this type of plating bath.

There is one slight drawback to deposit when plated from 65 deg. to 75 deg. F. It will have a tendency to be a little brittle, but as the temperature increases, the ductility of the deposit also increases. For flat electrotype plates, this type of bath is more than satisfactory. But if the electrotype is to be used on rotary presses, that is, if the plate has to be curved, there is a chance that the surface of the iron might show a series of microscopic cracks after curving, and some of them might be detrimental to good printing. However, by increasing the solution temperature to about 90 deg. F., a ductile satisfactory deposit for both curved electrotype and stereotype may be had, by using a current density of about 50 amp./sq. ft. At this current density, it will take approximately 20 min. to deposit 0.001 in. If we could increase the current density to 100 amp./sq. ft., then it would take 1 hr. to deposit approximately 0.006 in.

EDITOR'S NOTE:

Printing Equipment Engineer has had a number of requests for technical information regarding iron plating of electrotypes and stereotypes. We have asked Axel Lundbye to prepare a comprehensive article on the subject. So, here 'tis. We know it will be helpful to those of our readers needing information on the subject.

Controlling pH

The pH of the bath can be controlled at approx. 5 to 5½, by means of adding KOH (potassium hydroxide) in solution. The easiest and safest method of reading the pH is by using an electric pH meter. Several of these meters are on the market, and most within price range of the average company. Here, again, air agitation should not be used because the added oxide in the air will have a tendency to oxide the solution too quickly. Under normal operating conditions with gentle mechanical agitation, these baths have a fairly slow oxidation cycle. By oxidation of the solution, we form ferric oxide which precipitates. However, this precipitation is not at all harmful when using the solution to plate electrotype and stereotype plates. Here, as before, it is recommended that the anode be bagged for the same reason given earlier. However, the condition in this type of bath is not as bad as it is in the earlier described bath. To maintain the bath, the same procedure can be followed as for the earlier described ferrous chloride bath.

The minimum specification for plate tank lining when solution is used at 95 deg. F. or below, is a bituminous coating. However, personally, we prefer a synthetic rubber lining.

Sulfate Bath

So far, we have only discussed chloride baths. But there are some very good sulphate baths which have been used with good success for depositing a soft, smooth, wear-resistant film on iron electrotype and stereotype. The sulfate bath was an earlier development than the chloride bath, and the reason for sticking to the chloride was undoubtedly that the sulphate will not carry as high a current density as can be used in the hot chloride bath. A good sulfate plating solution is one made up with 50 oz./gal. concentrate of ferrous (in other words an iron with valance of 2) ammonium sulfate $(NH_4)_2SO_4$. The above given concentrate of the ammonium sulfate will allow for the maximum current density. The solution can be made up and used with a much smaller concentration of salt, but the diminishing amount of salt will allow less current density, and therefore a longer time will be required for the same thickness of iron deposit. Here again, ferric iron (that is an iron of a valance of 3) must be kept very low. That can be accomplished as described under the chloride baths, by means of a reducing treatment, but we must substitute the HCl (hydrachloride acid or muriatic acid) by H_2SO_4 (sulfuric acid). The best way to do it is to make up a water solution of approx. ¾ water and ¼ of H_2SO_4. Keep in mind when making this solution, to be absolutely sure to add the water to the acid (always pour the lighter liquid into the heavier liquid) and always do this operation very slowly. When using this mixture as a reducing agent in the plating solution, use it sparingly. After adding the reducing agent, let bath stand a few hours, heating the solution and at the same time using dummy cathodes will hasten the action.

The best results are obtained by keeping this solution nearly neutral or slightly on the acid side. A good solution should have approximately 0.25 gram of H_2SO_4 /liter for normal operation at low temperature and low current density. For a quicker deposition. the acid can be increased to 1.0 gram of H_2SO_4 /liter.

By keeping the solution nearly neutral, there is a real danger of oxidizing the ferrous iron to ferric iron, and that is very bad. Therefore, it requires more attention and regulation than when we move the solution away from the neutral stage. The current density for this solution at 70 deg. F. is approx. 20 amp./sq. ft., and at 140 deg. F., the current density is approx. 60 amp./sq. ft., or nearly three times as fast deposit can be obtained. By moving the pH from a range of 5½ to 6, very good plating can be obtained.

Here again we come to pH, and the question: What is it? The proper definition would be: pH is the logarithm, to the base 10, of the reciprocal of the concentration of hydrogen ions in an aqueous solution. It is a convenient method of expressing small difference in the acidity or alkalinity of nearly neutral solutions. Hydrogen ion concentration is a measure of the acidity of a solution. In a neutral solution it has a value of 10^{-7} therefore pure water is neutral.

Accordingly, water is the pH=7, and acid solution has a pH of less than 7, and a basic solution higher than 7. Therefore, the acidity of the solution is more acid the smaller the number, and more alkaline with the higher number.

Sulfate Iron Bath pH Control

To control the pH in the sulfate iron bath, periodically add fresh ferrous carbonate, and right after add a small amount of powdered charcoal. This is to minimize pitting in the deposit. Ammonia can be substituted. The pH can be measured with one of several pH meters on the market.

To obtain the best possible deposit, a gentle mechanical agitation is required, but the best method is to move the cathode (plate) slowly up and down approx. 1 in. occasionally, and at the same time

gently tap the cathode bus bar with a lead or brass hammer.

The best way is to have a mechanical arrangement that will give a continuous up and down motion of the cases during the plating cycle. The maximum stroke need only be 1 in., and the cycle of the operation should be approx. 1 per sec. The top of the cases should not be less than 6 in. below the surface. Usually, a freshly made up plating bath will give more trouble, and after a couple of months in continuous operation of the bath, it will be found that all agitation can be eliminated.

Again let us repeat—never use air agitation in any iron plating bath because of the danger of oxidation. The agitation of the bath by mechanical means will help keep the ferrous carbonate and charcoal in a desired suspension, and the more even the suspension of these materials in the bath, the better deposit can be had.

One of the later designs of a sulfate iron plating solution was described in *Electrochemical Society Transaction 84* in 1943 by R. M. Schaffert and Bruce W. Gonzer. The chemical composition of this bath is shown in Table II.

The voltage, or the force, will depend on the current density used, and of course, on the distance between anode and cathode (shell).

Let us assume we want a current density of 50 amp./sq.ft., then the required voltage is approx. the number of inches between anode and shell. It is considered best practice to hold this distance from 4½ in. to 5 in. because the throwing power is greatest here.

Should we determine that 75 amp./sq. ft. is required, and a distance of approx. 2½ in. between anode and cathode, then we can use 4 v.

The reason for designating this bath as a sulfate bath is not quite clear, because actually it is a combination of sulfate and chloride. Because of the chloride present, it is necessary to have an acid resistant plating tank. These baths yield an excellent result in giving an even, fine grain flexible, ductile, wear-resistant plate, and therefore it is a very good coating for electrotype and stereotype printing plates.

Cleanliness is Imperative

Warning: In standard electrotype and stereotype, cleanliness is considered good practice. When using an iron bath, it is mandatory that the printing plate to be plated and the surrounding area of the bath should be kept absolutely clean. One of the reasons for some of the failures in producing iron plating is a disregard for this cleanliness. Again, it is very important to keep everything as clean as possible if a good deposit is required. We don't like the term "chemically clean" because that is absolute. But for good plating we should be as close to chemical cleanliness as possible.

Cleaning Stereotype Plate

To clean a stereotype, scrub it with a warm solution of sodium hydroxide (lye) using between 2 to 4 oz./gal. This treatment will remove dirt, grease and oil. If a commercial solution is preferred, the Oakite Company sells one. This is a solution of trisodium phosphate and sodium cyanide. It is much more expensive and will not do a better job.

After that, the stereotype is washed in running water. It is given a reverse current treatment, *i.e.*, making the anode the cathode for approx. ½ min. at approx. 6 v. in a solution of 8 oz./gal. of sodium chloride and 1 oz./gal. of ammonium chloride at 120 deg. F. Many plants use approx. the same bath for nickel plated stereotypes.

After this treatment, the face of the stereotype is scrubbed under running water until all the dark smudges are totally removed, after which the stereotype plate is now ready for the iron bath.

There is no reason why iron plating should not be substituted for all nickel on the face of the stereotype and electrotype. At the same time, it will cut the thickness of the copper deposit considerably on the electrotypes.

When a stereotype is to be plated in this type of bath, use the above mentioned cleaning procedure. Be sure the face is clean before placing in the iron plating bath.

And of course, in the stereotype, the nickel which is sometimes now used will be substituted completely for iron. However, there is one thing—the sulfate solution described above cannot be used in an electrotype shell from a wax mold or a lead mold directly if an iron shell is to be made directly from these "cases." If it is necessary to plate such "cases," first we have to oxidize them with the well known process of treating them with a finely divided iron powder, and copper sulfate. A good practice is to repeat this treatment twice if an even iron deposit is required. After the oxide treatment, they should be flashed in a copper sulfate solution for 1 or 2 min. of not more than 2 v., and placed in the sulfate iron plating bath until the proper plate thickness is obtained.

In cases where we have to produce shells for wax and lead molds, we would prefer to use the ferrous chloride potassium bath, and even then we would oxidize the "cases." For silvered Vinylite molds, the sulfate baths are excellent, but before attempting to mold the Vinylite, refer to the *Printing Equipment Engineer* issue of April 1951, *Good Plastic Mold for Electrotyping*. Follow these instructions, and be even more careful as to cleanliness.

TABLE II.
Sulfate Iron Plating Solution

Ferrous sulfate	33 oz./gal.
Ferrous chloride	5.6 oz./gal.
Ammonium Chloride	2.7 oz./gal.
Recommended temperature range	100 deg. to 105 deg. F.
pH	4.5 to 6
Current Density	50 to 100 amp./sq. ft.

Iron Plating Stereos

For iron plating stereotypes, use the last ferrous sulphate chloride bath, but keep the temperature of the plating solution at approx. 90 deg. to 95 deg. F., and the pH should be kept from 3½ to 5. Flash the stereotype for about 1 min. in a copper sulfate plating bath after first washing the stereotype in warm water.

Iron Deposit Thickness for Flat Electros

The recommended thickness of iron deposit for flat electrotype printing plates is approx. 0.004 in. to 0.0045 in. of iron, and about 0.0015 in. to 0.002 in. of copper. For curved electrotype plates, the recommended thickness is 0.003 in. to 0.004 in. of iron, and about 0.002 in. to 0.003 in. of copper. First, the case is flashed in a standard copper sulfate plating bath at 4 v., and the temperature at approx. 85 deg. for 1 min. Under these conditions, the copper will only approx. 0.00002 in. and this copper usually disappears during the finishing operation of the electrotype. It is then washed and placed in the iron plating tank for the desired time element to produce the required thickness of the iron. Then the case is flashed in a cyanide copper solution for about 2 min., or the standard nickel plating bath used by the electrotyper can be used for a 3 min. flash. Then rinse and place in the standard copper sulfate solution for a time equal to give it a thickness of 0.0015 in. to 0.002 in. From this it can be seen that the saving in nickel will be 100%, and the saving in copper will be more than half.

Fine Grain Deposit

The last described sulfate-chloride solution will, when operated properly and by following the above description, give good, fine grained, and pit-free deposit without difficulty, both for stereotype face and for shell for electrotypes. Should trouble occur, chances are that cleanliness, which is absolutely necessary in this type of plating has been disregarded.

Regarding cleanliness, it is good practice to once a day remove the anodes and scrub them under running water with a steel brush to remove accumulated carbon.

Craftsmen Safety Committee

The Safety Committee headed by W. A. (Andy) Anderson of Washington, D. C., has introduced a safety program to the Intl. Assoc. of Printing House Craftsmen membership. Subjects of safety are now included in the program of local Club meetings, District Conferences and Conventions. The Committee has submitted a list of sources from which speakers may be obtained for safety meetings.

Singletone r.o.p.
Newspaper Color
from Plastic Plates

By STAFF WRITER

At some time or other, executives principally of small and medium size daily newspapers have wrestled with the complexities of printing color in the newspaper. Now an economical color printing process has been developed in the plant of the LaSalle (Ill.) *Daily News-Tribune*. Principal components involved in this color printing process are the Fairchild Scan-a-graver and Bourges Colotone Sheets plus the exercise of ingenuity and a willingness to adapt all three to newspaper r.o.p. color printing.

The process about to be described in this illustrated article was developed by John Barron, Composing Room Supt. and Paul Ginn, Pressroom Supt., with the collaboration of the *News-Tribune* mechanical staff.

The *News-Tribune*, holder of the F. W. Ayer cup, the Inland First Place award, and other major recognitions for typographic excellence, is running almost daily color in its editorial and advertising columns and is doing it without routed color press plates. The color plates are produced without the use of photography or trained artists.

The simple spot color process may be used by other newspapers as it can be run on any conventional newspaper press.

Before development of the process, which is called Singleplate Color, the *News-Tribune* faced the same conomic and mechanical problems common to all small dailies which run color. Because of the extra time involved to rout color plates and get them into register on the press, it was necessary to send the page form to the stereotyper one day in advance of the run. This meant that news matter on the same page as color would be at least one day old. The time required to rout a page on a small paper is the same as on a metropolitan daily, but the revenue from the lineage is much less on the smaller daily. For this reason, the smaller newspaper has great difficulty in recovering the cost of running color.

Like all dailies, executives of the *News-Tribune* believe that the use of color in all editions will increase steadily as newspapers try to compete with other media in presenting advertisers' messages in an attractive manner.

Color Separation

In normal color printing, it has always been necessary to employ the use of cameras and filters to separate the various colors of pictures into the three basic colors. The *News-Tribune* process separates the colors by use of Bourges Colotone materials. Color copy is prepared by placing any desired color of Bourges Colotone sheet over the photograph, line drawing, or proof of stereotype cast. The Bourges material is a thin sheet of acetate covered with different degrees of colored coatings obtainable in various colors, through which the art is visible. The surface is removed where color is not wanted by scraping off the coating with a special

Fig. 1.—Transparent sheet of any selected color of Bourges Colotone Sheet is laid over black copy. The colored coating on the transparent acetate sheet permits seeing the black copy through the sheet. When color is added to a flat cast or metal plate, the color plate copy is a proof from a cut which has been cast to the pre-shrunk dimension of the black plate, since the plastic cuts are not molded but are printed from direct on a dummy plate cylinder in the printing press. When a black plastic is used with a color plastic there is no shrinkage involved.

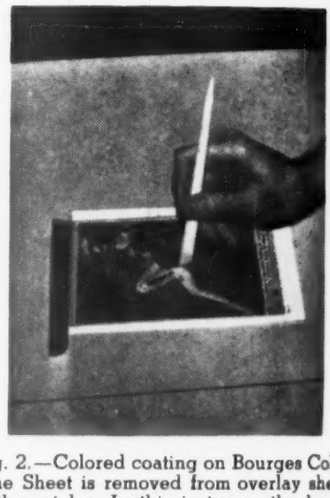


Fig. 2.—Colored coating on Bourges Colotone Sheet is removed from overlay sheet with a stylus. In this instance, the background is to be printed in blue in the paper, so the coating is removed from the figure of the girl on the overlay sheet with the stylus. Some blue, however, also appears on the bathing suit.

Fig. 3.—In some cases, additional color or shading is added where desired with special pencils or inks on the area which represents the color printing plate. Mr. Barron stated that any color Bourges Colotone Sheet can be used to prepare the overlay since the Scan-a-graver's electric eye is sensitive and responds to any color, including yellow.

John Barron and Paul Ginn of the LaSalle (Ill.) *Daily News-Tribune* inspect full page ad which is combined with the Singleplate color process in register with black halftone overprint plates, and a line of stripped type, all of which were printed on the same page without the use of routed press plates for the color.

Fig. 4.—The 85 line screened plastic black plate is made on the Scan-a-graver from the original copy shown in Fig. 1 in the usual manner.

Fig. 5.—With a sheet of white paper behind transparent color sheet, Scan-a-graver plate is cut to 85 line screen at a 30 deg. angle by cocking copy on the scanning cylinder. When accurately positioned on cylinder at proper angle, the halftone dots in the color plate will not overlap the dots in the black plate nor cause a moire' dot pattern.

Fig. 6.—In this step-by-step demonstration, unfortunately our photographer ran out on us by taking a picture of the next step in the making of color plates. However, the use of the 15 automobile color plates is the same as the girl in the bathing suit in Figs. 1 to 5. Actually, the *News-Tribune* ran a full page color ad recently with the automobile shown in the ad. At this point, the color plates are built up by lamination —that is, three thicknesses of Scan-a-graver sheets and two of MMM double-sided Scotch Tape. The plastic sheets are 0.020 in. thick; thus, the lamination is built up from the color plate and two blank sheets of Scan-a-graver plastic, plus one sheet of 0.010 in. cellulose acetate. This lamination builds up the plate to sufficient height to prevent the inking rollers bottoming on the press cylinder around the cuts. The little automobiles are now cut apart previous to positioning them on the ruled cellulose acetate sheet which is later fastened to the brass dummy cylinder on the press.

Step-by-step explanation of Singletone Newspaper Color Printing Process

(All plates made on a Fairchild Scan-a-graver by LaSalle (Ill.) *News-Tribune* and printed from direct).

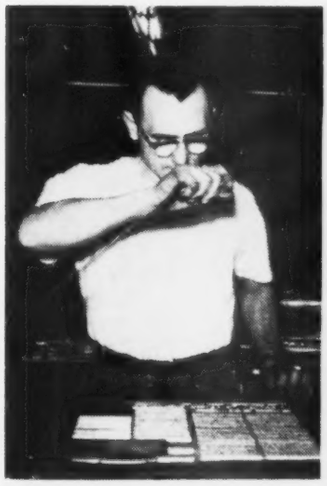


Fig. 7.—To register the separate color cuts in position, the printer lays a 0.010 in. thick sheet of transparent cellulose acetate over the type page form. Calibrations on the sheet are 1 in. squares.

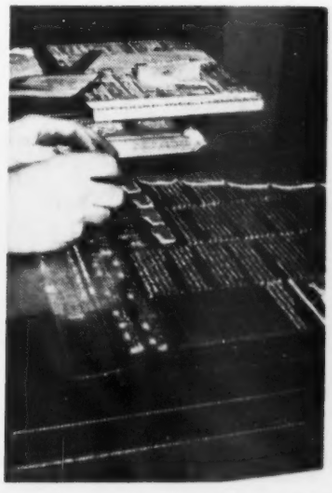


Fig. 8.—The plastic color plate are laid in registered position on top of the transparent calibrated plastic sheet shown in Fig. 7. The printer, of course, can see the matching form elements which are to be printed in black through the transparent calibrated sheet which he has laid on another cellulose sheet which is ruled with square calibrations and which represent the page form in dimension after the stereotype department has cast a plate from the black form. Mat shrinkage employed at the *News-Tribune* is $\frac{1}{16}$ in. (or approx. $5\frac{1}{2}$ picas) across the width of the page. Since the shrinkage behavior of the mat is known, there is no difficulty in registering the color plates exactly.

Fig. 9.—The pressroom receives the cellulose acetate sheet of page size with the color cuts in pre-registered position with the black plate. This sheet to which the laminated color cuts are fastened is the press color plate.

Fig. 10.—Backed with double-coated tape, the plastic color plate is now adhered to the circular brass dummy press plate in proper registered position.

Fig. 11.—The brass cylinder bearing the cellulose acetate sheet and color plates is locked on the plate cylinder of the press. Since color is preregistered in the composing room, the pressman can begin run without delay. Makeovers on the black form need not change register of color. No plates are routed. Thus it can be seen that the people involved in producing the color plates really are not bothered with the vexing registration problem.

stylus. Darker colors may be added with Bourges inks or crayons. Large areas are removed with a special fluid. Bourges colors can be obtained to match standard printing inks.

After the color art on the Colotone overlay has been made, the overlay is removed from the black art and underlaid with a uniformly white sheet of paper. It is then placed on the copy cylinder of the Scan-a-graver at standard color screen angles and a plastic cut is made. While the black plate may be a plastic cut, to be printed from direct, or a conventional engraving or mat stereotyped in the form, the color plates are made on the Scan-a-graver.

Pre-Registered Plates

The unique features about the process in relation to present r.o.p. color techniques are that there are no color or black plates to rout and a special registration method has been developed. Actually, the color plates are pre-registered before the black stereoplate plate is cast. The color plates are run from a brass dummy press plate which is ordinarily used to hold standard black plates on the press when a dinky paper roll is used.

Pre-register for the press is accomplished by the use of two large sheets of 0.010 in. thick cellulose acetate, one of which is calibrated in 1 in. squares and exactly covers the full type page[1]. The plastic color plates are placed on this sheet as the sheet lays over the black form. With the position of each color plate noted with relation to its adjacent ruled squares, the plates are then moved to the second large acetate sheet which has been ruled in identical squares, but the ruling has been done to allow for the normal type page shrinkage (1/16 in. or approx. 5½ picas). Color plates are fastened to this transparent sheet with double coated tape. This sheet then becomes a color press plate, pre-registered with the black.

The flexible acetate sheet is then taped to the dummy cylinder on the press and the page is ready to run.

LaSalle (Ill.) *News-Tribune* photo.

Observing the LaSalle (Ill.) *News-Tribune*'s new color printing method are (left to right) John Barron of the *News-Tribune*'s mechanical staff; Arthur Lawrence, Chicago, service engineer director for Fairchild Camera & Instrument Corp.; Roy Prince, Chief of Engineering research staff, American Newspaper Publishers Assoc.; Peter Miller, Publisher of the *News-Tribune*; John Hancock, Design and Electronics Engineer for the Fairchild firm.

In a conversation, Mr. Barron told *Printing Equipment Engineer* that the *News-Tribune* has already produced a four color process subject in a daily issue but he believes that at present one color and black is best for everyday operation. He said he expects to keep working on methods to simplify the printing of four color process subjects.

[1]These ruled sheets are obtainable from Plastic Supply Co., 2901 No. Grand Blvd., St. Louis 7, Mo.

Printing Equipment Exhibit-Operation

EXECUTIVES of the Chandler & Price Co., on Tuesday, March 11, held an exhibition and working demonstration of the various kinds of equipment manufactured in that plant in Cleveland. The exhibit-demonstration was held for the benefit of the managers and sales representatives of WNU branch offices in the central district area, comprising Buffalo (N.Y.), Cleveland and Columbus (O.), Detroit, and Pittsburgh (Pa.). Since WNU is a nation-wide distributor for Chandler & Price products, Darwyn C. Jackson, Manager of WNU's Printing Machinery Div., was present.

Among the various equipment items demonstrated were: 10 in. by 15 in. Craftsman press with impression control and continuous delivery for odd shape specialty printing and for printing regular or died/out envelopes; press may be equipped with automatic feeder. A 12 in. by 18 in. Craftsman Automatic Press. A 14½ in. by 22 in. Automatic Press. A 14½ in. by 22 in. Super Heavy Duty Press which is available with or without inking mechanism for cutting, creasing, embossing and stamping. The Chandler & Price Cylinder Letterpress prints at speeds up to 4800 i.p.h.; regular inside chase measurement is 12½ in. by 17⅜ in.; sheet sizes range from 3¼ in. by 5½ in. to 12¼ in. by 18½ in.; accepts onion skin to 4 ply cardboard. Also shown was a Pilot Hand Press with inside chase measurement of 6½ in. by 10 in.

Among the cutting machines shown were the following: C&P Hand-operated Bench Cutter which accepts sheets up to 19 in. by 24 in. A Craftsman 26½ in. floor model hand clamp and hand lever paper cutter. A Craftsman 34½ in. Hand Clamp Power Cutter, equipped with safety mechanism to prevent cutter accidentally starting or repeating. Also shown was the streamlined 37 in. Automatic Paper Cutter with built-in safety devices and extra wide cutting table; the power mechanism is an integral, self-contained unit. The largest machine shown was the C&P Automatic Paper Cutter in the 50 in. size. It is also built in 39 in. and 44 in. sizes. Left and right extension tables 40 in. long by 20 in. wide may be obtained.

It was explained by a Chandler & Price executive that the Pilot Hand press shown at the exhibit currently is being purchased principally by schools and Veterans' Hospitals in considerable numbers. Mr. Jackson of WNU remarked that new equipment is a necessity. He observed that management executives of companies using equipment of the type made by Chandler & Price are constantly looking for new and improved machinery just the same as do management executives of larger companies who, besides doing a wide range of work, some of which is done on C&P equipment, seek to keep all of their equipment up to date.

Zuckerman Profile

Adolph Zuckerman, R. Hoe & Co.'s chief designer, is profiled in the first issue (April) of the *Catholic Digest* to be printed on the new press he designed for the publication. The 126 T. press covers over 1200 sq. ft. of floor space in the Webb Publishing Co. plant, St. Paul, Minn. The press has a 16,000 copy per hour capacity and is equipped with a new folder device designed by Zuckerman which makes it possible to switch automatically from high speed production of one magazine to another four times the size.

Zuckerman, it is noted in the article, has probably contributed more to the development of the modern magazine press than any other living man. Fifty patents are registered in his name and at least four or five times that many improvements are credited to him.

Nashua Shortens Name

Stockholders of the Nashua Gummed and Coated Paper Co. voted recently to shorten the company name to Nashua Corporation. Since the products, facilities and services of the company had outgrown the value of descriptive title, the shorter name was adopted, according to the announcement.

A Thought for the Commercial Plant Executive

THIS little article is addressed to plant management, production and mechanical executives who are immediately next to management executives in commercial printing plants. Just recently *Printing Equipment Engineer* discussed the utility of the Research and Engineering Council of the Graphic Arts Industry. It was explained that progressive management in the commercial field has adopted and is using the important tools available, such as sales helps, self-advertising, cost systems, association membership and foreman training. There is yet a remaining tool to which commercial printing plant management should give attentive ear, because it is a means for reducing plant operating costs.

No doubt you have read about the proceedings of the Research and Engineering Council as reported from time to time in *Printing Equipment Engineer* and other magazines. Perhaps you have represented your firm at one or two meetings. In the case of the executive right next to management, we feel you will be doing your employer a distinct service in bringing to his attention the desirability of your firm becoming a sustaining member of the Council. If he is too busy with purely management affairs, it will be in order for you to represent your firm and participate in Council proceedings.

It is not too surprising that many management executives have not become identified with the Council. (It's only three years old). They are busy men engrossed with competition, promotion and such matters.

The remaining means for cost reduction eventually must rest with research and plant engineering. In time, management executives generally will recognize this phase of plant operation. The Council does not actually engage in research, but it does encourage research on an industry-wide basis throughout the Graphic Arts. It publishes periodically the research activities currently under way by equipment and supplies manufacturers, by research organizations and by private sponsorship. However, we should again warn those contemplating membership that the Council's objectives are of the long range variety. Eventually, they will pay off. It is readily admitted that in some research activities there is no way of knowing whether or not they will pay off until they have been thoroughly researched. The point we are trying to make is that miracles just don't happen over night. On the other hand, *many* recent research developments are now being employed in today's plants.

Some of the new developments already announced have or will drastically change present plant operation. As a plant executive, some of these new techniques will command your utmost cooperation and abilities as a supervising executive. You yourself may not be a graduate engineer, (truthfully, it isn't at all necessary), yet your capabilities will assure successful use of the anticipated equipment and techniques as they are introduced.

As a plant executive, you can't afford to go along in the even tenor of your way indefinitely by ignoring the developments which will assure greater success for your firm on the profit side of the ledger at either a lower price or the same previous price to your customers.

For the sake of the future success of your firm, as well as your own progress and the continued employment of those working for you, why not discuss with your management the benefits to be secured through your firm's substantial participation in the Research and Engineering Council? The most wonderful comment that can be made about any plant executive is to have someone refer to him as a progressive executive.

New PAR Section

Printing Industry of America this month is mailing to its PIA Production PAR subscribers a new section entitled *How to Develop Your Own Data with the Aid of PAR*. It has long been felt that PAR could only be really effective when a plant had its own production standards based on that plant's own operations. According to PIA, each procedural step in the new section has been worked out and tested in both large and small printing plants.

Analysis of the data provided by the PAR Score Sheets will show plant management how effective their plant's production performance is in comparison to their own standards as well as in comparison to PAR standards. In addition, it will assist in finding the reasons for production problems such as: defects in equipment, untrained employees on specific operations, insufficient or unskilled supervision, materials not best suited for an operation, incomplete working instructions, etc.

Procedural instructions include how to develop, collect and interpret the plant production performance data and how to eventually establish plant standards from current operating performance, how to eventually establish plant standards from current operating performance, how to keep these standards up-to-date and how to use them in relation to estimating and production scheduling functions.

New subscribers can receive this material, in addition to all the previously issued data sheets on letterpress and offset press production standards, properly organized and indexed in a loose-leaf binder, by writing to Printing Industry of America, 719 Fifteenth St., N. W., Washington 5, D. C. Subscriptions to PIA Production PAR are available to PIA members at $24 per year.

Carnegie Reunion

The annual Carnegie printing management seminar and alumni reunion will be held at Carnegie Institute of Technology, Pittsburgh, on May 2 and 3. According to Theodore Bixler of the Edwin H. Stuart Co., Pittsburgh, in charge of the program, talks and clinics will be held on such subjects as work simplification, labor saving devices, sales problems and phototypesetting. Also foreman training and human relations, labor relations, cost finding and cost analysis, blueprints for printed products, production problems, and design and typography, will be included. The meeting will be concluded with the annual alumni banquet.

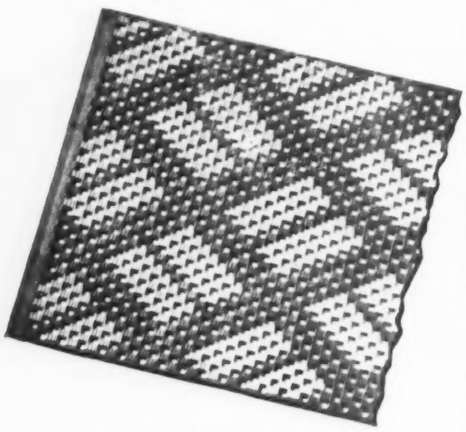
Equipment & Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT *Engineer*, 1276 West Third St., Cleveland 13, Ohio.

When writing to us about any of the items described, and to save your time, just mention in your request the PEE symbol which appears at the end of each description.

Floor Matting

DEVELOPED for use in printing plants for foot comfort, or where oily or greasy floors exist, is the Ever-Tred Vinyl Plastic Matting announced by American Mat Corp. Sponsor states the slightly corrugated surface on one side affects a safe, slip-resistant walking surface, especially where wet floors prevail. The deeply corrugated surface on the reverse side provides a dirt remover for entrances. It is claimed that the Ever-Tred floor matting is non-absorbent, non-porous and grease proof.



The links of the matting are woven on rust resisting steel wires and also on flexible, Vinyl tubing framework for use where subjected to strong acids. The links are available in the following colors: Red, green, brown, black and white. These colors may be used in any combination or in any pattern. The American Mat firm suggests that color lanes be used in a black mat as a traffic director.

Ever-Tred matting is available in any length, up to 6 ft. wide, and $\frac{3}{8}$ in. thickness. More information is available by addressing your request to *Printing Equipment Engineer* and mentioning PEE No. 313.

Register Checking Rules

WHILE available only in limited supply, the Lithographic Technical Foundation has available Register Rules in 46 in., 58 in., 70 in. and 79 in. lengths. The rules are said to be accurate to 0.005 in. The Register Rule is a special precision instrument for checking back-edge mis-register (fanning out or pulling in) of sheets printed by offset-lith. To check register, measure the distance between register marks along back edge of the plate and compare this with the same measurement on the printed sheets. The two measurements should be the same. If not, the paper is not flat, the gripper edge is not straight, or the front guides are not working properly. For good color work, register of the first color is most important. When asking for more information, please mention PEE No. 303 in your request.

Kodak Filters Booklet

EASTMAN Kodak Co. recently issued a revised booklet entitled *Kodak Wratten Filters for Scientific and Technical Use*. The book contains the material of the previous publication *Wratten Light Filters*, revised with the addition of data on Kodak Light Balancing and Color Compensating Filters. A spectrophotometric curve, a per cent-transmittance table, and data on luminous transmittance, dominant wave length, excitation purity, and stability are given for each filter. More than 100 filters are listed which have applications in black-and-white photography, color photography, and other scientific fields. The text includes forms and types of filters, their standards, the use of specific filters and the care of filters in general. Also included are filter factor and density-transmittance tables. If more information is desired on this booklet, please mention PEE No. 308 in your request.

Lens Tissue—A lens tissue which is Silicone treated, is designed for keeping safety goggles clean and polished, according to General Scientific Equipment Co. It is claimed that these tissues remove smears, dirt, lint and dust. An invisible coating of Silicone remains on the lens after cleaning the goggles. Size of the tissue is 5 in. by $6\frac{3}{4}$ in. A metal dispenser (illustrated above) is also available. Please use PEE No. 305 in reference to these tissues when writing for further details.

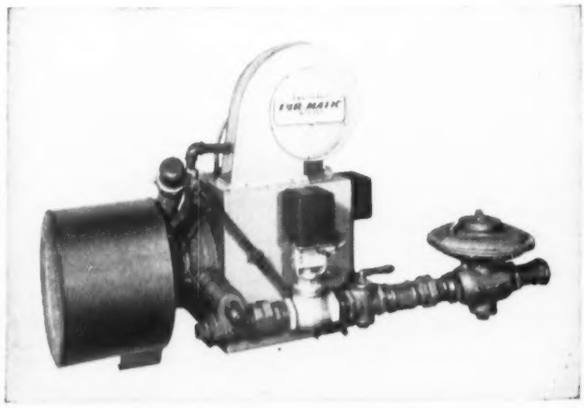
Gas-Oil Burner

A COMBINATION gas-oil burner which makes it possible to alternate the use of fuels according to availability, economy or suitability, has been reported by Eclipse Fuel Engineering Co. Called the Fyr-Matic Gas-Oil Burner, it is designed for both industrial and commercial use. Sponsor states that changeover from one fuel to the other is made instantly and automatically by the flick of a switch.

The self-contained Fyr-Matic Burner features dual atomization which sponsor claims makes possible use of oil or gas with equal efficiency. Other features of the unit include adjustable burner support and instantaneous, electronic flame failure control for either fuel.

Mixed, natural or L-P gas (800 to 3200 b.t.u.) or No. 1, 2 or 3 fuel oil may be used in the combination burner. Eclipse reports that either gas or oil can be burned without induced secondary air, as the burner is designed to furnish its own air for combustion. A direct electric spark ignition is employed when burning oil. For burning gas, ignition is provided by a gas pilot which must prove itself to the electronic safety circuit before the main fuel is admitted to the burner.

For further details, please mention PEE No. 306 when writing.



Eclipse Fyr-Matic Combination Gas-Oil Burner which can be converted to burn either fuel by the flick of a switch. The self-contained burner is designed for both industrial and commercial use.

Lighting Unit Produces True Daylight

A LIGHTING unit which blends the primary colors of the spectrum by use of colored fluorescent tubes to produce a white light that measures 6000 Kelvins on the spectra meter, the same color temperature as natural daylight, has been developed by the Lighting Div., John P. Filbert Co., Inc. Known as Spectro-Lite, the manufacturer claims that anything seen under the unit appears exactly as it would under normal daylight conditions.

Designed for either plant or office use, it has special value wherever color matching or color distinction is essential. The Spectro-Lite unit uses cove curvatures and reflecting surfaces to blend and fuse the primary colors of the rainbow and thus produce a balanced white light similar to true sunlight.

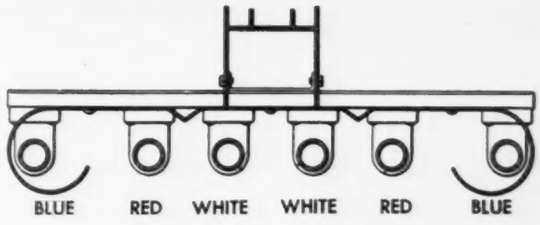


Diagram shows arrangement of Spectro-Lite lamp tubes, reflecting surface and cove curvatures which blend and fuse colored light of tubes to create a white light similar to natural sunlight.

Two types of Spectro-Lite units are available. Model 636 uses six lamps in a fixture 18 in. wide by 36 in. long. Model 618, a small portable unit suitable for counter use, uses six lamps in a fixture 18 in. sq. Both models are equipped with end plates and glass facing. If more information is desired, please mention PEE No. 304 when writing *Printing Equipment Engineer*.

Printing Press Drive System Improved

DESIGN improvements in General Electric's electronic printing press drive system which reduce the space required for the equipment and permit safer, more convenient operation have been announced by the company. Introduction of a rotary selector switch, replacing knife switches formerly used in G-E press control, permits simplified motor selection. Through the use of the switch, one adjustment, instead of the three required previously, selects field, armature, control stations, and dynamic braking for the units in operation.

Coupling simplicity with safety, the switch also allows electrical isolation of the units now in use.

Another new feature is a control design utilizing three cubicles. Since four were needed previously, this reduces control length per folder to approx. 8½ ft., providing a space reduction of over 2 ft.

All functioning components of the control have been maintained in normal locations except the autotransformer. This equipment is now mounted, enclosed, near the source of incoming power. Please refer to PEE No. 302 when requesting additional information.

Force-Dry Varnish

A HIGH gloss overprint varnish for posters, printed matter, show cards and advertising displays that can be force-dried, it is claimed, in less than two min. under infra-red lamps, has been announced by the Graphic Arts and Sign Finishing Div. of the Glidden Company. It is stated that the varnish flows well under either a machine or hand squeegee, and flows out in 15 to 30 sec., leaving no bubbles or craters.

Force drying equipment required is the same as that needed for drying silk screen process colors. Sheets can be dried on a conveyor belt or table. The varnish is water clear and results in a gloss surface effect when applied to either paper, wood or metal. Sponsor claims the varnish is weatherproof when subjected to the same conditions as those to which outdoor posters or advertising displays are customarily exposed.

Known as Glidden Force Dry Overprint Varnish, it is available in 1 gal. or 5 gal. containers, or in 55 gal. drums. Quart samples of the varnish, along with additional information are available on request. Please write *Printing Equipment Engineer*, mentioning PEE No. 318.

Humidity and Temperature Indicator

THE Model 186 Hygrodial, reported by the Abbeon Supply Co., is a direct reading instrument which shows at a glance the relative humidity and temperature of the air to which it is exposed. The humidity scale is 2½ in. long and graduated into equal divisions cover-

ing the range of from 0 to 100 per cent R.H. The markings and numerals are satin-finished on an etched black background.

The humidity sensing element is a multiple strand containing a total of 216 in. of fine blonde human hair. According to humidification engineers of Bendix Aviation Corp., blonde hair is more sensitive to changes in the atmospheric moisture content than brunette or red hair.

The temperature scale is 1½ in. high and covers a range of 0 deg. to 100 deg. F. Graduation numerals are marked at each 10 deg. interval. Sponsor claims the instrument is accurate to within 1 deg. at 70 deg. F. and within 3 deg. at the extremes of the scale.

Overall dimensions of the Hygrodial are 6 in. long by 4 in. high by 2 17/32 in. deep. Weight is approx. 9 oz. Equipped with a base for standing on a desk or table and also has provision for wall mounting. If further details are desired, please mention PEE No. 310 in your request.

Blanket Thickness Gauge

THE LTF Offset Blanket Thickness Gauge was described in the June 1951 issue of *Printing Equipment Engineer* by Dr. Robt. F. Reed and Walter J. Bublitz. The gauge is used for measuring the thickness of offset blankets within plus or minus 0.0005 in. The circular throat permits rolling up a large blanket to measure its thickness any place over the entire blanket area. The contact points are of sufficient diameter and the measuring pressure is so adjusted that the dial reading indicates the thickness of the blanket when it is stretched on the press's blanket cylinder. Lithographic Technical Foundation announces that the gauge may be obtained from the following distributors: California Ink Co., 545 Sansome St., San Francisco 11; Fuchs & Lang Div., Sun Chemical Corp., 10th St. and 44th Ave., Long Island City 1, N. Y.; International Printing Ink Div., Interchemical Corp., 636 11th Ave., New York; Roberts & Porter, Inc. 402 So. Market St., Chicago; Sinclair & Valentine Co., 611 W. 129th St., New York 29.

Copyflex Process

AS explained in an eight page bulletin prepared by the Charles Bruning Co., Inc., the Copyflex Process is a method of reproducing copies of anything drawn, written, typed or printed, such as office forms, engineering drawings, charts, maps, documents, etc. In making a Copyflex print, the original to be copied is placed on a sheet of sensitized Copyflex paper (cloth or film) and inserted together into the Copyflex machine. The original is returned to the operator by the machine and, in several seconds, the sensitized paper showing a facsimile of the original emerges from the machine. It is claimed that finished Copyflex prints are clean, flat, dry and ready for immediate use. The bulletin contains descriptions and illustrations of the various Copyflex machine models. Also included is a step-by-step illustrated explanation of the process and an exposure and developing diagram. The different uses of the process in business and industry is described. For a copy of this bulletin, please refer to PEE No. 316 in your request.

Here an operator is shown lowering an Intertype 4-4 auxiliary assembler front into a tank containing Lix-It solution for cleaning. Other assemblies for line-composing machines, including keyboard cam frames and Teletypesetter Keyboard operating units may be cleaned quickly by this process.

Machine Parts Cleaning Process

CERTAIN composing machine parts and assemblies in time collect dirt, dust and grease. Principally, these are keyboard assemblies, assembler entrances, distributor channel entrances, etc. Old cleaning methods entailed the complete disassembly of keyboards, keyboard cam assemblies, channel entrance assemblies, assembler entrances, distributor boxes, Teletypesetter units, etc. Each part had to be washed, brushed, dried and reassembled.

The Verdon machine parts cleaning process cuts this time and labor. Complete assemblies are placed in a tank of Lix-It, agitated by compressed air and, sponsor states, are removed bright and clean in 3 min. The assembly is then dipped in cold water to neutralize the solvent, dried with an air hose and is ready to be put back on the machine.

A line-composing machine keyboard cam assembly can be cleaned in minimum time. Cams are re-oiled without removing them from the frame. Sponsor states a Teletypesetter Keyboard operating unit can be cleaned, re-oiled and ready for operation in 75 min.

Lix-It is obtainable from the Lix Corporation. After three years of experiments with this solvent, it is claimed there is no chemical reaction with any kind of metal. Lix-It solution will dissolve ink, oil, grease, dust and grime, leaving the metal free of any oil film. It is noninflammable, nontoxic and will not irritate the skin. Evaporation is slow and the solvent can be used over and over.

The tank is built 36 in. long, 24 in. wide and 18 in. high to accommodate a complete machine assembly, including a Teletypesetter operating unit. It is equipped with a connection for an air hose at the top at one end and three ¼ in. pipes running the length of the tank along the bottom with 1/16 in. holes drilled at intervals of 1 in.

Further details concerning the use of Lix-It and the building of a tank may be obtained by mentioning PEE No. 301 in your request.

Color Roll Film

A COLOR roll film for professional and advanced amateur photographers has been announced by the Eastman Kodak Co. The film, Kodak Ektachrome Roll Film (Type B), is a companion to Kodak Ektachrome Roll Film (Daylight Type). Type B is intended for picture taking indoors with artificial illumination including flash.

The new film is color balanced for picture taking with the clear 3200 deg. K flood lamps normally used for indoor professional photography. A Wratten 81-EF filter is needed, however, to adjust the color balance of light from clear flash lamps when this film is used with such sources of illumination.

Data sheets will be packed with the film in order to give photographers specific information about the particular batch of emulsion used in manufacturing each roll. These sheets will also indicate which filters best apply to that particular emulsion when used with flash and photoflood lamps. It is designed for processing by the user.

Kodak Ektachrome Roll Film, Type B, will be rated at ASA 10 for tungsten illumination. When used outdoors with a Wratten 85-B filter, the film will be rated at ASA 6. It is available in 8-exposure rolls in sizes 620 and 120. If more information is desired, please refer to PEE No. 319 in your request.

Rapid Trimmer Bulletin

THE Rapid Trimmer, an automatic machine designed for three-knife trimming of books, magazines and pamphlets, is described in a bulletin recently prepared by E. P. Lawson Co. The machine is equipped with a variable speed drive, and will handle trim work in sizes ranging from 2 in. by 3¼ in. to 11¾ in. by 16⅞ in. Equipped with an automatic feeding device, the trimmer handles in-feeding, clamping, trimming and delivery to the built-in conveyor of a full 4½ in. lift, at speeds from 10 to 25 piles per min. A complete description of the Rapid Trimmer appeared in the January 1952 issue of *Printing Equipment Engineer*. Copies of the bulletin may be obtained by mentioning PEE No. 311 in your request.

Linotype Spartan Family

LINOTYPE'S Spartan Family, a type face used for commercial job work, newspaper headlines, advertising text and display, is shown in a 64 page specimen book published by Mergenthaler Linotype Co. Printed in yellow and black, the booklet contains the full range of Spartan faces available for Linotype composition. These include, Spartan Light with Medium, Book with Heavy, Medium with Italic or Heavy, Heavy with Italic, Black with Italic, Book Condensed with Heavy Condensed, Medium Condensed with Black Condensed, Heavy Condensed with Book Condensed, Black Condensed with Italic or with Heavy, and Spartan Duplicate.

In its Book weight, Spartan is used for pamphlets, brochures, reports and other similar printing jobs. Included in the booklet are two-color examples and suggestions for its use in advertisements, invitations, catalogs, announcements and invoices. Two full pages are devoted to the use of Spartan Duplicate in food store advertising.

The company reports that a companion showing of Spartan Book with Italic will be issued soon to complete the specimen showings of all the Linotype Spartan faces. Copies are available by sending your request to *Printing Equipment Engineer* and mentioning PEE No. 320.

Steel Truck Casters—The Bassick Company has announced the addition of an extra heavy 8 in. diam. size to the Series 99 Double Ball Race Swivel Steel Truck Casters. The Super 99 for heavy duty service is constructed of extra heavy gauge steel, ¼ in. thick top plate, with heavy king pin and adjustable bearing assembly. It is available in 6 in. and 8 in. diam. sizes. The Heavy 99 is an all-purpose general-duty caster with wheels for every type of floor and operating condition, and is available in 3 in. and 8 in. diam. sizes. The Light 99 is recommended for soft rubber tread wheels for light duty trucks and comes in 5 in., 6 in. and 8 in. diam. sizes. For further details, please mention PEE No. 307 in your request.

Equipment Instruction Literature

THE Intl. Assoc. of Printing House Craftsmen, through the Instruction Literature Committee headed by Mark Wilson of Atlanta, Ga., is urging the 13,000 plus membership to make available to all operators of printing machinery, instruction literature furnished by the manufacturers. The Research and Engineering Council of the Graphic Arts Industry, Inc., after making a survey, found that in many plants this literature is filed by some executive or otherwise handled in a way that the Craftsmen who operate the machinery never have access to it.

Because of materials shortages the necessity for machinery being operated and cared for as prescribed by the manufacturers is a project that challenges the support of everyone in the Graphic Arts industry. Every Craftsman when approaching a new machine should secure instruction literature on this machine and thoroughly study it. This applies also to old machines when new operators are assigned to them. Oiling charts should be posted where they may be studied by those responsible for oiling and caring for the machines.

Every local club and district conference is being asked by the Intl. Instruction Literature Committee to hold a meeting on this project in 1952. Two manuals, EQ-1 and EQ-2, published by the Research and Engineering Council are available. These two publications regularly sell for $6.00, but Craftsmen may obtain them for $2.00 through Intl. Secretary Pearl E. Oldt, Intl. Assoc. of Printing House Craftsmen, Inc., 18 E. Fourth St. Cincinnati 2, O.

Newspaper Plant Modernized

With straightline workflow, TTS straightmatter composition, new equipment including Scott press, du Pont color conditioning and fluorescent lighting.

By ALVAH H. CHAPMAN, jr.*

*Business and Production Mgr., Columbus (Ga.) Ledger and Enquirer.

THE physical changes recently completed in the current remodeling program give company executives the feeling that the Columbus (Ga.) *Ledger-Enquirer* plant is as modern and efficient as any of its size in the country. Company President A. H. Chapman, sr. and Publisher M. R. Ashworth, gave a green light to the production department heads to create a mechanical layout which would achieve the ultimate in streamlined newspaper production.

Each process was examined in painstaking conferences between department foremen, and production executives. This team was composed of Building Superintendent J. D. Moore; Composing Room Foreman Ed Johnsen and his Asst. Foremen Lloyd Kettles, Bob Yeiter, Frank Whitworth; Stereo Foremen Joe Brooks and Nelson Jones; Asst. Production Mgr. Doug Wallace, and Business Manager A. H. Chapman, jr.

Composing Room News Production

Two basic decisions were: (1) All body type composition would be by the Teletypesetter method, and (2) A straight line work flow would prevail.

Referring to Fig. 1, the workflow arrow shows the copy arriving at the copy desk by Lamson tubes from one of two newsrooms on the floor above the composing room (the morning *Enquirer* and the afternoon *Ledger* have separate news rooms). The *Ledger-Enquirer* receive both the Associated Press and the United Press services in Teletypesetter tape form. Copy from these services arrives in the composing room by Lamson tube with the Teletypesetter tape folded inside the copy. This copy goes direct to the six machines at the west end of the composing room at *3* on the arrow to begin the straightline flow from west to east. Local copy, and other copy which is to be perforated, goes first to the perforator room behind the copy desk at *2* and then to the machines for composition at *3*.

In designing the composing room layout, great pains were taken to place the perforator room as near the machines as possible to eliminate the necessity of tape transmission. It is only about 10 steps from the perforator room to the six linecasting machines which run Teletypesetter tape.

The six line-casting machines at *3* are placed keyboard to keyboard in two rows of three machines. Usually only five machines are needed for production of all type necessary for any paper up to 150 open columns. These five machines are usually tended by one monitor. In the line of six linecasting Teletypesetter equipped machines are five new Model 5 Linotypes and one Comet Linotype. (These six machines took the place of 12 line-casting machines formerly producing the newspaper under the manual operation system). Type which is produced by the Teletypesetter equipped Linotypes, at *3*, is dumped at *4* by the monitor and proofed on the Vandercook Proof Press at *5* by the printer running the dump. Proofs go into the proof room (sound and air conditioned) at *6*, and after being read, return to the copy desk and go out to one of three manually operated Linotypes *9* for correction lines.

The U shaped type bank (*7* in Fig. 1, and also shown in Fig. 3) was especially designed by *Ledger-Enquirer* production executives, and manufactured locally. The U shaped bank allows one printer to process all type from production on the Teletypesetter operated Linotypes to correct galleys ready for makeup. The proof press on the proof room side of the U shaped bank and the head letter machine *10* in Fig. 1, on the opposite side of the bank complete the U shaped layout. The bottom of the U table (nearest the makeup department) receives only corrected type for handling by makeup men. The especially designed tables for the U shaped bank are at correct working height for a man standing to correct a galley of type. Three storage shelves underneath the top of the table provide for storing a large number of galleys of type and for easy visibility by the man working the bank.

Six especially designed and constructed stands to accommodate eight form trucks and chases are arranged in two rows, (see Fig. 4). These stands accommodate

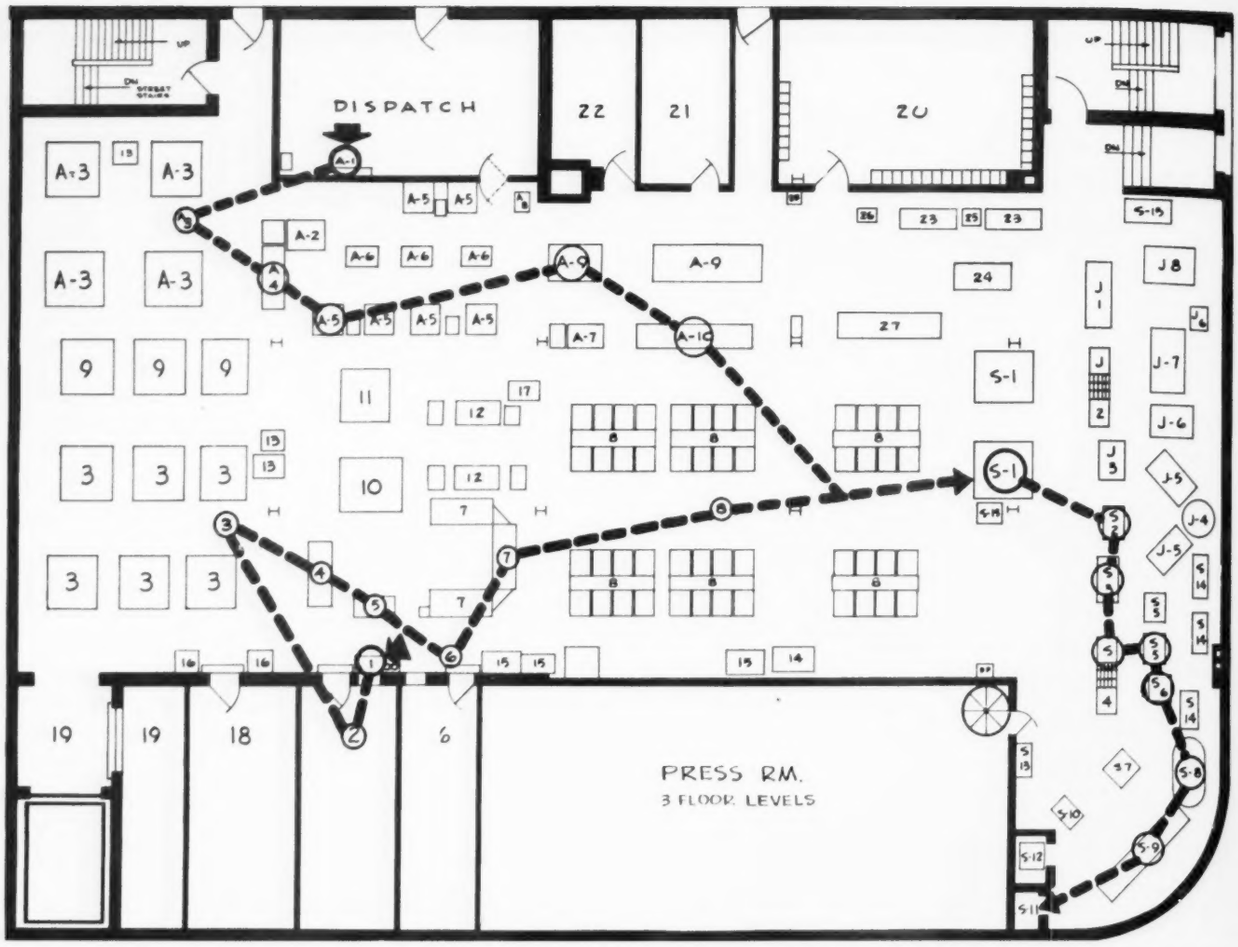


Fig. 1.—Shown in this diagram is the equipment layout and work flow plan of the Columbus (Ga.) *Ledger-Enquirer* composing and stereotype departments. News copy originates in area *1*, and proceeds along the dotted line to make up at *8* and stereotype at *S-1*. Ad copy originates at *A-1* and progresses along the dotted line to join news in the makeup area. The plant is designed so that all work moves forward along the dotted lines to its final destination (pressroom) with no processes requiring doubling back or crossing over the workflow of another process.

Equipment is identified as follows:

COMPOSING ROOM

1. Copy Desk
2. Teletype Perforator Room
3. Six Teletypesetter-operated Line-casting Machines
4. Type Dump
5. Vandercook Proof Press
6. Proof Room
7. U Shaped Bank
8. Makeup Area
9. Manually Operated Line-casting Machines
10. Head Letter Line-casting Machine
11. Cut-Line Line-casting Machine
12. Ludlows and Cabinets
13. Magazine Racks
14. Page Storage Cabinet
15. Type Storage Cabinets
16. Type Storage Cabinets (on wheels)
17. Saw for Makeup
18. Machinist Room
19. Lunch and Relaxation Area
20. Men's Locker and Shower Room
21. Women's Locker and Rest Room
22. Metal Casting Room
23. Elrod Strip Caster
24. Monotype Caster
25. Cabinet
26. Saw for Material
27. Material Storage

A-1 Tray Rack in Wall Between Dispatch and Ad Area Composing Room

A-2 Ad Markup Desk
A-3 Ad Line-casting Machines
A-4 Ad Type Dump
A-5 Ad Composition Stand
A-6 Ad Saw
A-7 Miterer and Border Storage
A-8 Slug Stripper
A-9 Ad Proof Presses
A-10 Ad Storage Banks (completed ads)

STEREO DEPARTMENT

S-1 Mat Molding Machines
S-2 Even-Ray Mat Pre-Shrinker
S-3 Work Table with Trim Knife
S-4 Packing Table
S-5 Sta-Hi's
S-6 Final Trim
S-7 Form-O-Scorch
S-8 Metal Pot
S-9 Pony Autoplate
S-10 Finishing Block
S-11 Plate Drop to Pressroom
S-12 Plate Return Elevator
S-13 Curved Plate Router
S-14 Standby Plate Making Equipment
S-15 Page Mat Humidor
J-1 Work Table
J-2 Packing Table
J-3 Flat Scorch
J-4 Metal Pot
J-5 Flat Casting Boxes
J-6 Stereo Saw
J-7 Premier Shaver
J-8 Flat Router

Views in Production Depts. of Columbus (Ga.) *Ledger-Enquirer* ➡

Fig. 2.—Proof Room is sound and air conditioned. It is directly behind copy desk. Proofs are placed in a drawer which slides in wall between copy desk and proof room. Shown at work is Bill Jones, *Enquirer* proofreader.

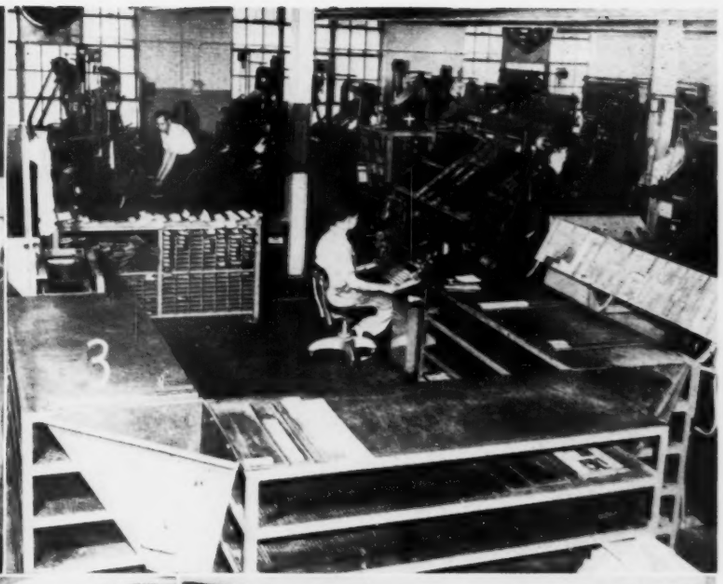
Fig. 3.—U Shaped Bank is located between battery of line-casting machines and makeup area. One man working inside of the U can process type effeciently for most editions. Directly behind U are six Teletypesetter-operated Linotypes. Showing monitoring machines is William Rhodes. Setting type on the headletter Intertype is Ben Adams, a night machinist. Work flow is shown by broken line in Fig. 1.

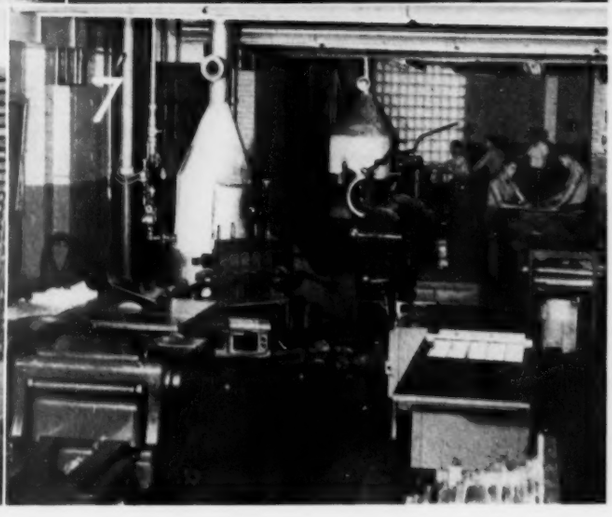
Fig. 4.—Makeup area of composing room is shown looking from Stereo Department. Makeup stands accommodate eight form trucks with chases and provide all necessary makeup materials as well as a dump for dead type and materials.

Fig. 5.—Dispatch Room. Placing a flat cast in a tray is Claude Dudley, Dispatch Mgr. When all casts, engravings, etc. for each ad are ready, Mr. Dudley will check against layout and then turn tray around in rack so that handle and tag end faces ad assembly area of composing room. This is a signal to compositor that all materials are ready and composition can be started. In front of Mr. Dudley is four-wheeled truck for transporting mats and casts to and from the stereo department. At right is electric dumbwaiter to engraving department. Window at right is used to pass large casts out to ad foreman. About 97% of all casts and engravings, however, can be handled through the $8\frac{1}{2}$ in. by 17 in. trays in the rack.

Fig. 6.—Tray Rack from ad composition side shows compositor John Carlsen taking a tray containing layout, casts, engravings, etc. ready to begin composition. Looking on is Lloyd Kettles, ad foreman, seated at ad markup desk. Tray with tag and handle end toward composing room side indicate ads that are complete and ready for composition.

Fig. 7.—Stereo Room is shown in operation processing page forms. The molding machines are located out of the picture to the right. Stereotypers shown are Grady Willis and Walter Gaines at packing table and Harry Koon, Jim Slavey, and John Clayton at Pony Autoplate.





48 turtles and chases in easily accessible straight line makeup. A total of 56 trucks are available on the floor for larger editions. The especially designed stand and type bank allows all materials for page makeup to be within reach of the makeup man and provides a readily available dump for unusable type and materials. Foreman Ed Johnsen takes considerable pride in keeping his composing room floor clean and free of all metal and as polished as a floor in the average home.

A page storage cabinet *14* in Fig. 1, convenient to the makeup area, provides for sliding of chases to allow for making up issues up to 64 pages.

A wide, straight aisle allows for form trucks to be pushed straight down the line to one of two mat rollers at the beginning of the stereotype department. In laying out a paper, *Ledger-Enquirer* makeup men use a four wheel four shelved hand trunk on which ads on galleys can be transported from ad storage to the various pages to begin makeup for any issue of the paper.

This four wheeled hand truck saves

Fig. 8.—Shown above are the Columbus (Ga.) *Ledger-Enquirer* day and night press crews standing beside the new four-unit Scott press. Management furnishes pressmen with white coveralls for their use since the new press was put into operation. Shown from left to right are: Curtis Taff, Roy Davis, J. M. Cleveland, J. C. Morris, Paul Brooks, Clyde Tyner, Bob Roach, L. D. Hale (night foreman), White Abel (general foreman), and Lonnie Horne. (Not shown, William Gunnells.)

many steps by eliminating necessity for makeup men carrying large ads and galleys one at a time from the ad storage area to the forms.

Dispatch Room and Ad Production

An integral part of the composing room setup is the dispatch room (Fig. *5*). Physically the dispatch room is located between the local advertising department and the composing room. One door of the dispatch enters on the local advertising department, and the other door across the room enters directly on to the ad composition area of the composing room. Functionally, the dispatch room was set up to handle all looking up, storage and filing operations of any materials necessary for ad production. The dispatch room was designed so that it could connect with the photoengraving department one floor above by an electrically operated dumbwaiter for the transmission of art work and engravings. Connection with the stereotype department is handled by a four-wheeled six-shelved hand truck on which mats are transported to stereotype and flat casts are transported from stereotype to dispatch and then to the composing room.

A typical ad layout is deposited in the in-basket of the dispatch room. The first step consists of attaching a colored code tag to the ad order ticket attached to the layout. A duplicate of this tag is immediately attached to the handle of a metal tray 8½ in. by 17 in. located in a tray rack (see Fig. 5) or *A-1* in Fig. 1 on the south wall of the dispatch room. This tray rack is between the dispatch room and ad makeup, and trays can be put in or taken out from either side. All trays are initially turned with the handle and tag end to the inside of the dispatch room. Dispatch room personnel receive the ad layout and immediately look up all mats necessary and dispatch all art work to the engraving department for processing, and mats to the stereotype room for casting.

Ad layouts are then passed through one of the large pigeon holes shown in Fig. 6 to the ad markup desk (*A-2*, Fig. 1) directly outside. The ad foreman marks up the ad and it goes directly to the four ad machines *A-3* and to the Ludlows *12* for ad type composition. As soon as all ad type is set, the ad layout is passed by the ad foreman back into the dispatch room. Dispatch room personnel take the ad layout and check all flat casts and engravings, sig cuts, etc., against the layout to be sure that all illustrative material is on hand.

As flat casts and engravings come back into the dispatch room, they are placed initially in the metal tray bearing the color code tag, advertiser's name and ad number. Material is then taken from this tray and checked against the layout after the type has been set. After all illustrative material is on hand, the layout with all casts, engravings, etc., is returned to the tray. The tray is placed in the rack with the handle and tag end facing toward the ad composition area of the composing room. This is a signal to the ad compositor that composition can be started on this ad.

By looking at Fig. 6 it can be seen that any tray with a tag facing outside is complete and ad composition can begin.

The ad compositor then takes this tray from the rack (Fig. 6 and *A-1* Fig. 1) from the composing room side, and by looking at the layout, he can tell the galley number to locate the type on the ad type dump at *A-4* Fig. 1, to complete the ad. He picks up this galley of type and takes it to his work table at *A-5* to assemble the ad.

This system insures that ad composition cannot be started until the ad compositor can go completely through with the ad. The ad compositor picks up two containers and in these two containers are all materials necessary to produce any given ad. One container is the metal tray in which all engravings, casts, etc. are collected and the other is the galley of type in which all ad type has been placed by the ad operator.

This system saves considerable chasing around by ad compositors looking for missing casts, cuts, sig cuts, etc. When the ad compositor removes all of the material from the trays which came out of the tray rack, he inserts the tray upside down back in the tray rack with the handle end back into the dispatch room side.

In the ad alley six ad assembling tables are provided with three saws *A-6*, Fig. 1, located between the two rows of assembling tables. The functions of composition, proofing, storage and correction move the ad in a straight line toward the makeup area. Its final journey is from storage dump *A-10* to makeup *8* on the four-wheel hand truck.

When pulled, proofs are placed in the dispatch room through one of the large holes in the tray rack Fig. 7 and are taken out to advertisers by one of the proof boys who work in the dispatch room. By referring to Fig. 1 it can be seen that like straight matter composition, ad composition travels in a straight line from the west end of the composing room to the center where it joins with type composition in the makeup area and then into stereotype.

Du Pont Color Conditioning

The entire mechanical department has been painted using the du Pont Color Conditioning system. It is exceptionally well lighted with five triple rows of fluorescent lights in continuous lines overhead. The composing room is ventilated by filtered air being brought in by five high speed fans at the east end and exhausted by two large slow speed fans at the west end.

The IBM time recorder is placed in the employee entrance hall at the east end of the room, and near this hall are modern tile locker rooms for men at *20* and for women at *21* in the composing room.

The machine shop is shown at *18* in Fig. 1 and is directly behind all of the line-casting machines at the west end of the room.

Since many employees of the mechanical department bring their lunch, a relaxing and lunch area, *19*, has been provided in a brightly painted room, with chromium furniture in bright colored plastic. Adjacent to this room is a foyer where are located all of the soft drink boxes, candy dispensing, cigarette dispensing, and coffee dispensing machines.

Stereotype Department

The stereotype department Fig. 7 at the east end of the composing room is also

(*Continued on Page 76*)

Fig. 3.—All men are not cast in same mold. Equipment should be flexible and elastic (adjustable) in one or more of its elements so that a greater average of the human element can be accommodated.

The ABC of OFFSET

For Letterpress Printers

By George Jos. Lenzer

Series Two

IV—POST-CAMERA OPERATIONS

Retouching Tables

NEGATIVE retouching and color correction, even though considered by many, to be an unnecessary evil and time-consuming operation, is essentially paramount to the production of offset-lithography and other reproduction processes.

We may as well accept this fact and consider the necessary equipment and work surfaces essential to good production.

Because the purchase of a camera, press or other commercially produced equipment can become a cut and dried proposition is no good reason to assume that all equipment can be similarily obtained.

It is a costly error to discount the importance of this phase of reproduction operation, or to assume that any makeshift equipment will suffice, while disregarding the workman who must use the equipment, and the effect of the equipment upon the man, the quality of his workmanship and the overall production.

Nature of the Work

In negative retouching and correction, among other qualifications, a high percentage of visual and manual labor is required as well as an extremely high percentage of mental energy. It provides little or no physical activity or relaxation. Simply stated, it is a desk job and should be so considered with this exception, that more thought must be given to the equipment, its design, lighting, efficiency and physical comfort of the workman.

Considering the nature of the work called retouching or negative correction, we learn that it is a confining job requiring deep concentration, thought, artistic skill, color sense, training and steady nerves.

Physical Motion Necessary

If, fast walking, running, lifting, pulling and tugging are believed to be the only signs of hard work, then the retoucher is a loafer indeed, because in his work he is literally *glued* to his seat.

His easy job is envied, because he is not required to display over-exertion or mobility. Yet at day's end, he is probably more tired than they who are constantly on the move. His fatigue is greater when he is required to work under conditions contrary to normal requirements, *i.e.*, whether he must stand, reach, stoop, crouch or be in any cramped position for long periods of time.

Beside the mental, what other physical energy is expended?

The physical energy expended, is through a co-ordinated movement of the workman's eyes, head, neck, fingers, hands and arms. Mobility of his back, hips and legs depends greatly upon the design and construction of the equipment, its purpose and efficiency. Also, whether the equipment is adjustable to the workman, or whether the workman, like a contortionist, must adjust himself to the equipment.

Adjustability Important

In considering the human element, it must be remembered that all men were not cast in the same mold. Human physique varies extensively. Mankind is not equally tall, short or of medium stature. Some have long bodies and short legs, while others have short bodies and long legs. Short men, like tall ones can be either slender or excessively obese, as in Fig. 3.

Since most equipment is neither flexible nor elastic, it should be adjustable in one or more of its elements or component parts, so that a greater average of the human element can be accommodated.

Tables and desks, built in conformity to accepted uniform standards should be adjustable in height. This adjustment should be supplemented by adjustable chairs with back rests, rather than heterogeneous stools which are neither adjustable nor conducive to healthy posture.

Retouching Tables and Stands

From the earliest days in photography and the development of photographic transparencies, negatives, etc., the need for some means of viewing the transparency and making necessary corrections, resulted in the development of a stand similar to *A* in Fig. 4. This simple arrangement, is a portable unit consisting of a wooden base, to which a framed ground glass element is hinged. A flexible arm is provided by which the frame can be adjusted to any desired angle.

Illumination was provided for the work surface by an adjustable mirror reflector, which utilized a maximum of natural daylight.

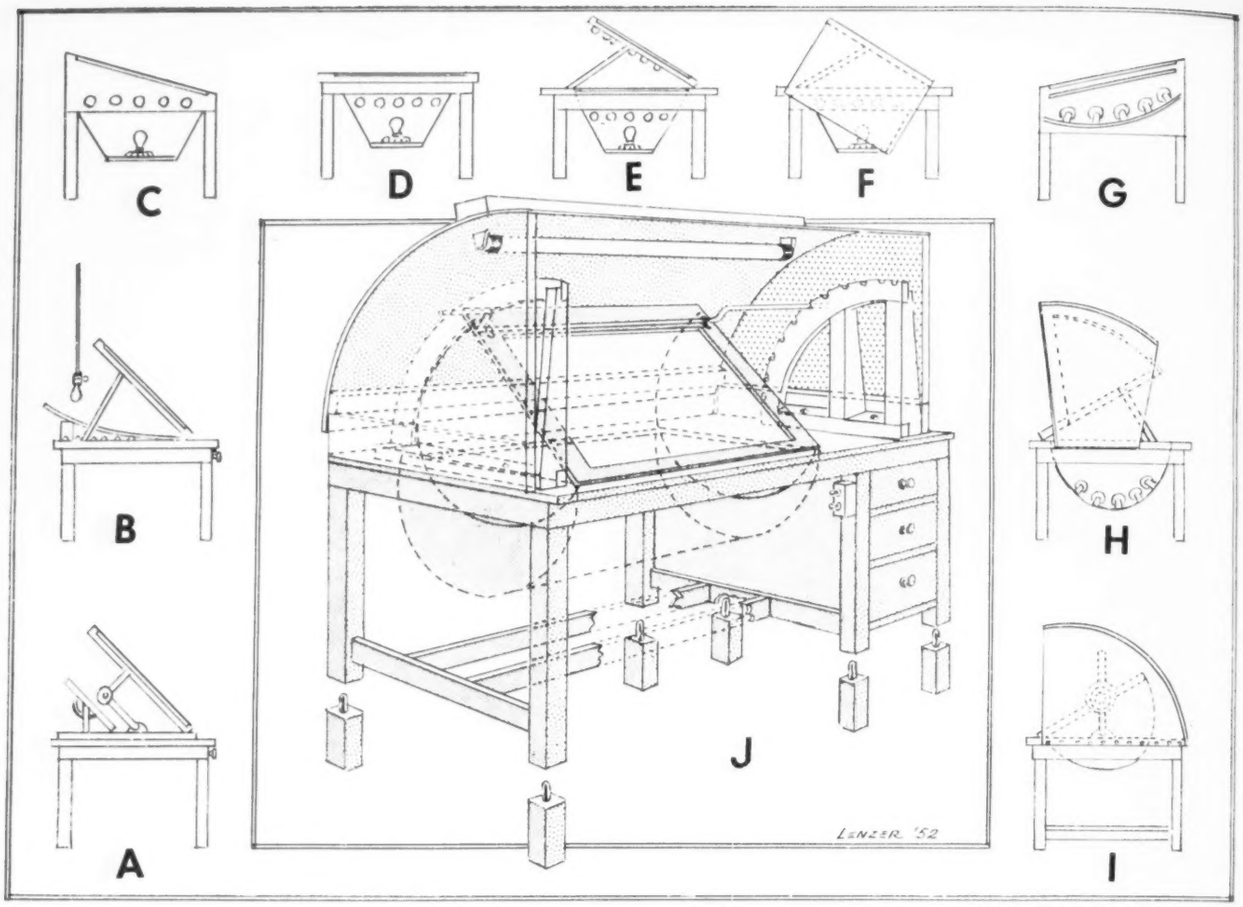


Fig. 4.—Transparency viewing and correction stands design have gone through an evolutionary process. In this article, the author discusses the various progressive steps shown above.

With the adoption of photomechanical reproduction processes, more efficient retouching tables became necessary. Development of the multi-color processes meant that larger working surfaces must be provided. This requirement resulted in the designing of the table illustrated at *B*.

An old wooden kitchen table was utilized. From a dismantled house, a weather-beaten window sash was converted into a frame for a large ground glass. The frame, set at a desirable angle was nailed to the table top, held in place by upright supports. Later, the frame was hinged and was made adjustable by the use of a swinging support which could be held in position by a series of notched blocks affixed to the table top. Light reflection, for illuminating the working surface, was afforded by a sheet of white paper or cardboard on the table top. The efficiency of the table was increased by the use of a drop-cord light bulb, enabling the workman to perform his duties either by daylight or at night.

Despite the reflected light from the white paper, the light bulb always created a hot-spot on the working surface of the ground glass.

Some of the major difficulties experienced with this piece of equipment were ruling and cropping, and the stripping and reversal of images, preparatory to platemaking. To meet these difficulties, a four legged, slant topped square frame was built, with a ground glass working surface. A light bulb affixed to a bracket underneath the glass completed the unit as at *C*. This table was utilized as a combination retouching and stripping table, but because of the slant, the table proved to be inefficient for the stripping and related operations. As a consequence, a flat topped table was erected, as shown at *D*.

With the improvement and increased brilliance of light bulbs, more difficulties were encountered. Irradiation of the exposed light from these tables, affected other operations. This difficulty was overcome by encasing or boxing the light beneath the table tops, *C* to *J* inclusive.

After boxing, it was found that the heat generated by the light bulbs could not be dissipated. It was concentrated under the glass tabletop, making it uncomfortable to the touch and also adversely affecting the emulsions and work under process. This difficulty was partly corrected by cutting vent holes around the edge of the light box and by the installation of a small electric fan to dissipate the heat.

This improvement helped to keep the glass cool, but instead of the light being entirely contained within the box, individual beams of interfering light were being projected from the many vent holes, cut in the box. This was as bad if not worse than the preceding condition.

Management began to gripe because retouching and stripping, that obviously unimportant phase of the industry, required more and more equipment. Flat topped tables for layout and stripping, and adjustable tables for retouching, were found to be most efficient and desirable for good production. This also meant more floor space would have to be provided. Here's where management balked and insisted upon a consolidation of equipment features advantageous to good production.

Next Improvement—Consolidation

Resolving the good features of the flat topped table *D*, with those of the adjustable table, *B*, with a few variations resulted in a table as at *E*.

Light was afforded by either natural daylight or that from the light box.

With this design, one table could be eliminated, but there was a reversion to previous difficulties which had been to a certain extent overcome. This was the unrestricted irradiation of light emanating from the opened light box beneath the table. Correction of this difficulty was accomplished by attaching wings or light baffles to the ends of the movable wooden framed element. Still, there was something wrong. Perfection had not been reached.

Hot spots from the light bulbs con-

tinued to be an annoyance and the conflicting light reflections from the angular sides of the light box had to be overcome. It will be noted that up to this time all thinking and designing was based on square and angular lines.

Realization that the square or angular box did not afford evenly distributed illumination prompted a departure in design and the adoption of curves and curved lines. The light box was redesigned, providing two semi-circular ends to which was nailed an old discarded zinc plate. Light diffusion was effected by painting the interior with a matte white paint instead of enamel, *G*, *H*, *I* and *J*.

Further improvement in light diffusion was effected by substituting flashed opal glass for the conventional ground-glass. This substitution also eliminated to a certain extent the troublesome hot spots rom the light bulbs.

The next progressive step in table design, was the utilization of the light box to its maximum efficiency by making it a separate movable unit, hinged to an opening in the table top. With a hook and eye arrangement on each end of the movable frame and the light box, it was possible to join these two elements together, permitting adjustment to any desired angle or working position. The light baffle wings as at *F* were replaced with a telescopic hood as at *H*.

Cold Light Introduced

With the introduction of cold light fluorescent tubes, an almost complete elimination of troublesome hot spots was effected, and when coupled with the flashed opal glass working surface, an almost ideal illumination and light diffusion was provided.

Being something new, this form of illumination was oversold to the Graphic Arts industry, and temporarily resulted in a reversion to the Dark Ages (so to speak).

In many plants, windows were sealed, boarded up, and then with the walls were painted black. Without natural daylight or ventilation, management expected the retouchers to produce top quality reproductions in this tomblike atmosphere. Since natural daylight was ruled out and could not be utilized, the tables were once again redesigned like shown at *G*.

This table had all movable features eliminated, and was returned to a fixed angle design, either flat for layout and stripping, or with a surface angle of 30 deg. elevation for retouchers. The only notable improvement in design was the condensation in construction with a shallower light box. More tubelights were added and an opal glass or sheet of opalescent Plexiglass plastic was installed at about 2 in. below the surface working glass. This arrangement afforded an air space between the two glass elements.

Compromise Is Reached

Having suffered losses in production, quality of work and with an excessive labor turnover, because of its action in converting an art department into a virtual tomb, management did an about face. Windows were unsealed, boards removed and the walls were painted a more pleasing color. The modernized tables, however, were useless. They had to be redesigned.

In order to preserve the benefits of fluorescent tube lighting and the other feature improvements of the modernized table, it was essential that natural daylight be eliminated except for the illumination of original copy and art work, as in *I*.

Illustrated at *J* is the most modern achievement-in retouching table design. Height of the table can be adjusted by the use of leg extenders, and the hood can be raised by the insertion of an extra element and dowel pegs. The work surface and light box can be adjusted from a flat position to an angle of almost 90 deg.

Fig. 5.—Section of the commercial art department of McCandlish Lithograph Corp., Philadelphia. Note use of natural daylight, placement of artificial lighting, roomy aisles, and freedom from crowding personnel.

Summary

No definite recommendation for any one of the tables illustrated or described is intended or implied. These are only a few of the many kinds of tables in actual use throughout the industry. All other similar equipment, such as etching sinks, have incorporated in them principles here described and presented.

Of the flat topped tables commercially obtainable and used expressly for layout work, among others, are those known as Craftsman, Gelb and Trojan. These are generally of metal construction. Besides the many features described and illustrated in this chapter, they are equipped with micrometrically adjusted straight edges. Precision layout tables of this kind afford accuracy in making original and duplicate layouts on paper, glass or cellulose acetates.

Where for economical or other reasons a photo-composing machine cannot be installed, a precision layout table becomes necessary when complicated sheet layouts and multiple stepups are to be made.

Illustrated in Fig. 5, is a section of the Commercial Art Department of The McCandlish Lithograph Corp., Philadelphia. In studying this photograph, note the wide use of natural daylight, the judicious placement of auxiliary artificial lighting, the broad space and roomy aisles, and the freedom from crowding and jamming of equipment and personnel.

This illustration is representative of the art departments of many shops throughout the country, and tends to verify my arguments against crowding and burying this vital and important department in some out of the way corner of the plant.

(To Be Continued)

Closes N. Y. Office

A premature announcement related to the Bagley & Sewall Co. was printed in the March issue of *Printing Equipment Engineer*. Since that time, W. A. Zonner, Exec. Vice Pres. of the Bagley and Sewall Co., has announced the closing of the company's New York office located at 500 Fifth Ave., effective April 1. All business pertaining to winders, paper machines and other equipment manufactured by the firm will be handled directly from the home office, 101 Pearl St., Watertown, N. Y. The move was made in order to coordinate sales, engineering and manufacturing operation from the plant. At the same time, announcement was made of resignations of T. Carter and E. Peterson of the Watertown office, and J. Scheuermann of the New York office.

Eclipse Fuel Meeting

Representatives from various parts of the country recently attended an annual sales meeting at the new factory and office building of the Eclipse Fuel Engineering Co., Rockford, Ill. The company's representatives were shown for the first time the Eclipse Fyr-Matic combination oil and gas burner which is described elsewhere in this issue of *Printing Equipment Engineer*.

Organizes New Orleans Craftsmen's Club—Seventy-four printers and supplymen have signed up as charter members of the New Orleans (La.) Club of Printing House Craftsmen. A recent organizational meeting was arranged by H. N. Cornay, President of the Press of H. N. Cornay, New Orleans, and C. S. Upton, President of the Graphic Arts Assoc. of New Orleans and President of the Upton Printing Co. Elected officers of the new club are shown above, from left to right: Vice Pres. Warren A. Forstall, General Mgr., Ad Shop; Secretary John W. Roberts, Production Mgr., New Orleans Public Service, Inc.; President S. H. Fitzpatrick, Superintendent, Press of H. N. Cornay; and Treasurer E. T. Anderson, Superintendent, Multiwall Div., Fulton Bag Co., all of New Orleans. Participating in the organization of the New Orleans Club were J. Homer Winkler, Intl. President; Joe McConnaughey, Intl. Seventh Dist. Representative; and Lee Augustine, Intl. Publications Commission Chairman.

Matrix Alignment—Hair Lines

What You Can Do About Them

By STAFF WRITER

FRANKLY, this article is intended to bring to the attention of our readers devices for maintaining line-composing machine matrix fonts in top notch condition. Maintenance, cleaning the sides of matrices and restoring the alignment qualities of matrix letter characters are discussed.

The importance of matrix font maintenance has been accelerated during the past few years because of the increase in the volume of offset printing in which specially prepared proofs are employed for the reproduction of type matter. Alert composition executives have become well aware of the complaints of photoengravers and offset platemakers about near-perfect proofs. After all, the camera picks up, and in some cases, magnifies imperfections in reproduction proofs. Obviously, photo-engravers and offset platemakers don't look with tolerant eye on avoidable mechanical imperfections.

The important point, however, is that by far the largest amount of composition is intended to be printed from direct or for mechanical plate reproduction. It is just as essential to provide good quality composition for mechanical reproduction as it is for photomechanical reproduction.

When fonts leave the factory, each matrix represents near-perfection itself with respect to depth-drive of the character, set-wise fit and alignment. Through use, however, the lower matrix aligning lugs, particularly on the most used characters, become worn sufficiently to cause misalignment is not constant. Also, due to spaceband neglect and dirt and graphite accumulation on the sides, hair lines may appear between certain letters on the slug. In turn, these cannot be made to disappear entirely during the press run.

It is demonstrable that a certain amount of maintenance is arbitrarily required to keep the fonts in good condition, particularly letter character alignment and the prevention of hairlines. In some plants, it might just as well be said, provision for the time necessary to perform these operations is not made. The result is that poor quality composition is produced and matrix maintenance expense is unnecessarily high.

The Hairline Problem

If matrix fonts are maintained in good condition there is not likely to be a hairline problem in any plant. The first precaution in preventing the appearance of hairlines is to clean and polish the spacebands at least once every shift. This statement cannot be repeated too often—even to the point of monotony. As is well known, an accumulation of metal and oxides at the side of the casting point on the sleeve will crush in the fragile matrix side walls.

Nobody likes to clean and polish spacebands. It's drudgery work, but it must be done at proper intervals, not only to prevent building up of accumulations at the casting point on the sleeve, but also to provide lubrication between the sliding parts.

The next important item is to see that operators do not send in matrix lines to be cast which will expand enough to justify and permit casting the slug but at the same time do not justify completely enough to prevent molten metal entering between matrices or matrix and spaceband.

The third item is to keep distributor boxes, distributor screws and channel entrances as well as the assembler entrance channels, free from oil. To express it another way: Avoid excess oil in lubricating these parts, and clean them weekly even though minimum amounts of oil are used for lubrication purposes. Oil flows from its supposed confines and is an insidious fouling agent so far as machine parts are concerned. Parts need lubrication with oil—but keep the oil under control.

Many machinists, including the manufacturers, do not recommend the practice of washing matrices in a liquid solution either with or without heat. There are two reasons for this: (1) According to the solution used, the matrix surfaces including the matrix cell itself may become roughened, due to the action of the chemicals used; this accelerates accumulation of dirt and other matter on the surfaces, and (2) The solution may dissolve or wash out the artificial matrix side walls which have been built up through use.

Like the spaceband polishing opera-

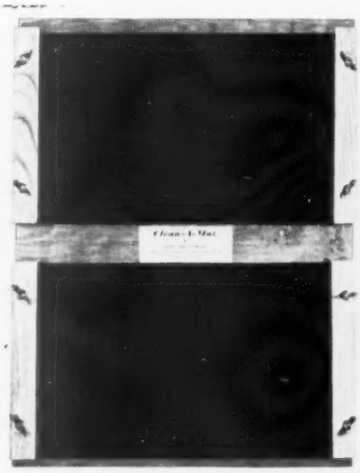


Fig. 1.—Clean-A-Mat device for cleaning the sides of line-composing machine matrices without breaking down or injuring false walls on line-composing machine matricies. Cleaning the sides of matrices when necessary permits more accurate column alignment in tables and also prevents the appearance of hair lines on the slug between the letter characters.

tion, nobody wants to clean the sides of matrices. But if good appearance of the composition is to be maintained, matrix fonts must be cleaned occasionally according to the amount of accumulation of graphite and just plain dirt. There

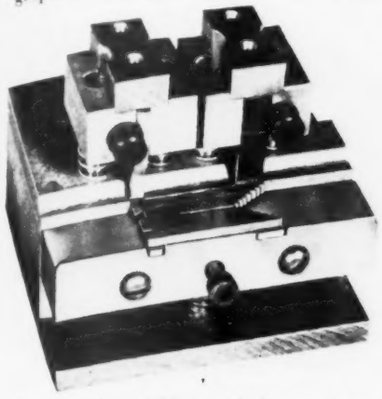


Fig. 2.—Align-A-Mat tool for restoring line-composing machine matrix lugs to original dimension after the lugs have been battered down or worn through normal use in the machine.

doesn't seem to be any mechanical substitute for hand cleaning the sides of matrices. If the accumulation is thick enough, hair lines between the letters may appear in the print.

Cleaning Matrix Sides

Various methods have been employed for removing accumulated matter on the sides of matrices. The trouble is that most or all of them may ruin the artificial matrix side walls. Some have used acid-base solutions, others have used a rubber eraser, while some have done the work by rubbing the matrix on a wood board where the resinous grain extends above the surface.

A device recently has been announced for cleaning the sides of matrices. It is called the Clean-A-Mat. It is not in any sense an automatic device nor does it eliminate tedious hand work. But it is a safe tool. The device consists of a laminated non-warp base board, 10 in. by 13 in., as shown in Fig. 1. Two sheets of Durite are fastened to the base board and held flat by means of wooden clamping strips and thumb screws.

Each matrix is rubbed lightly on one sheet to remove the dirt accumulation on the sides of the matrix. The matrix is then transferred to the other sheet for the finishing operation. It is claimed this treatment will not score or roughen the sides of the matrices, nor will the rubbing stroke remove or reduce the false wall built up through long use at the side of the matrix cell.

Bent matrices, matrix lugs, burred lugs or distorted combination teeth are readily detectable with the eye when cleaned this way. But if an occasional deformed matrix is rubbed on the Durite sheet which is a part of the Clean-A-Mat, its presence will be indicated at once.

There are a number of tools[1] on the market designed especially for removing the defects mentioned above, such as the snub-nose pliers, matrix lug file, matrix anvil, the Clean-A-Mat, and the Align-A-Mat tool—the latter for swaging worn lugs to their original dimension. In the case of burred matrix lugs, the matrix can be treated in the Align-A-Mat both for reducing the burrs and for restoring the lug to original dimension in one operation.

In those plants where Matrix Contrast Service[2] is used, there is less occasion to clean or buff the lugs of matrix fonts inasmuch as this operation is done by the company's crew at the time the matrix reference faces are reprocessed. But the cleaning of the sides of matrices by your own workers will still be necessary. It hardly seems necessary to say that when matrix fonts are reprocessed by Matrix Contrast Corp., magazines should also be cleaned thoroughly before the reprocessed matrices are returned to their magazines. Cleaning magazines is not a part of this service.

In plants where the Linotape Products Co.[3] method is used to process matrix reference edges, it will be necessary to clean the sides of matrices yourself, as well as periodical cleaning of the lugs of matrix fonts.

Periodical Matrix Cleaning

At the Composing Room, Inc., New York, which is a fine typographic composition plant, Sol Cantor is the inventor of the Align-A-Mat and the Clean-A-Mat devices. Both of these are used in maintaining over 400 fonts of Linotype and Intertype matrices in fine condition at low replacement cost. Mr. Cantor tells us some of these fonts have been in use over 25 years. Perhaps the quick remark might be made that executives of a typographic composition business are compelled to keep their matrix fonts in top condition but that in any other composing room it isn't necessary to be so meticulous. We won't argue the point except to say that demands for as near perfect as possible composition have been increasing no matter whether the slugs are to be used for reproduction proofs or are to be printed from direct. Aside from this viewpoint, considerable expense is involved unnecessarily for sorts in plants where the equipment isn't cared for properly.

For cleaning matrix lugs, the matrices are run out of the magazine and are stacked on single-column galleys. The lugs are cleaned with a Dixon Electrotype Rubber No. 1098[4].

After removing the dirt and rubber particles with an air hose, another galley is inverted and placed over the row of matrices. The closed end of the top galley is placed over the open end of the galley containing the matrices. This permits turning over the row of matrices so the other wide can be cleaned with the rubber. As in the first cleaning operation, the air hose is employed to blow away the dirt and rubber particles.

The matrices are now ready to be run back into the magazine.

---

[1]The 5 in. snub nose pliers can be obtained at any hardware store or tool shop. To test the straightness of a matrix, lay it on a slug or a 6 in. steel scale.
The Matrix Lug File—Can be obtained from Intertype Corporation, 360 Furman St., Brooklyn 2, or any of its agencies; Mergenthaler Linotype Co., 29 Ryerson St., Brooklyn 5, or any of its agencies; Linotype Parts Co., South Hackensack, N. J., or any of its agencies; Montgomery Co., Inc., Pratt Ave., Towanda, Pa.; William Reid Co., 2271 Clybourn Ave., Chicago 14.
Matrix Anvil—William Reid Co., 2271 Clybourn Ave., Chicago 14.
Align-A-Mat—Fisk Industries, 130 W. 46th St., New York 19.
Clean-A-Mat—Fisk Industries, 130 W. 46th St., New York 19.

[2]Matrix Contrast Corporation, 154 West 14th St., New York 11.

[3]Linotape Products Co., 744 W. Colfax St., Denver, Colo.

[4]Joseph Dixon Crucible Co., 167 Wayne St., Jersey City 3, N. J.

Miller Purchases Machinery Division

ELECTRIC Boat Co. and the Miller Printing Macninery Co. of Pittsburgh jointly announced in March the purchase by the Miller Company of Electric Boat Co.'s Printing Machinery Div., manufacturers of the E.B.Co offset press. The Miller Company by terms of sale also undertakes the servicing of all E.B.CO presses now in the field.

In conjunction with the purchase, the Miller firm announced that the William M. Kemp Co., 444 Market St., San Francisco, will continue to sell E.B.CO offset presses in the Pacific Coast territory. The Kemp company will collaborate with Miller's sales and service organization directed by Frank G. Betlock, Russ Bldg., San Francisco, in this arrangement. The Pacific Coast territory covers Arizona, California, Nevada, Oregon, Utah and Washington.

The Miller Company has been in the Graphic Arts field since 1903. It has manufactured automatic cylinder letterpresses since 1926. R. B. Tullis, President of Miller, stated that the purchase of the E.B.CO offset press facilities will enable the company to serve those of its customers who are developing combination letterpress and offset printing plants. The Miller Company will employ a number of E.B.CO employees in its manufacturing, sales and service departments, and intends to extend and develop the line of E.B.CO presses, it was announced.

Electric Boat Co. stated it was anticipating its energies would be devoted increasingly to defense work. Recognizing its responsibilities to the owners of E.B.CO presses, it was stated, the company decided to turn over its press activities to a company which would carry it on as a major element in its operations.

Electric Boat Co. has been manufacturing two models of its 22 in. by 34 in. offset press. Since 1946 when Electric Boat Co. purchased the then Willard press, the company's policy has been to make continuous improvements rather than to freeze design. E.B.CO presses have been sold domestically and in foreign countries.

MATRIX RECORD SHEET

Month _____

FONT MARK	MIXER NOTCH	Magazine			Character		No Mats	Machine No.
		90	72	Aux	Caps	L.C.		

Matrix Record Sheet—In any plant, it is good housekeeping to keep track of sorts matrices at periodic intervals. The larger the plant, the more meticulous the job is to see that the sorts matrices are available when needed. In the composing room of the Indianapolis (Ind.) *Star-News*, Chief Machinist Ted Gardiner provided the force with a printed blank. As will be seen, the blank is for use during one month's period. As the sorts are passed out to the machine operators, the number of matrices together with operating data details are entered on the sheet shown here in miniature form. The original size is 8½ in. by 11 in. At the end of the month, the sheet is examined and compared with the list showing the number of each kind of matrix which is kept in stock. Thus sorts matrix orders are made out and sent to the manufacturer at regular intervals so that the supply is replenished at all times.

Reduction of Maintenance

Accomplished by employing new methods and adopting newer products.

By TED GARDINER*

**Chief Composing Room Machinist, Indianapolis (Ind.)* Star-News.

IN ORDER to reduce maintenance costs in the composing room at the Indianapolis (Ind.) *Star-News*, we are eliminating as much unnecessary maintenance work as possible by employing new products and new methods. Some of the problems considered are discussed below.

We moved our remelting pot from the third floor composing room to the basement right next to the freight elevator. Then we provided a chute in the wall from the third floor direct to the remelting pot. This not only does away with the back-breaking job of shoveling metal into the pot, but it doubled the amount of remelted metal each day. This new arrangement also makes it handy to bring pigs of metal up to the machines as easily as before making the change. Having the remelt pot in the basement solved several problems in the composing room. First, it relieved the heavy weight of stored metal on the floor; next, it got rid of odors and smoke.

Keeping Metal Clean

We still had another problem facing us and that was keeping the metal clean, and eliminating the hot job of stirring or agitating the metal to separate the dross.

This has always been a subject for discussion. Whenever the subject arises you can get a thousand arguments as to the right method, all the way from potatoes, banana peals, green wood, etc. But when you are trying to agitate 2 T. of metal at one time it is another story.

While discussing steel making with some friends at Gary, Ind. one day, we got on the subject of metal agitation and from this discussion I received the idea which we are now using at the *Star-News*. We built an air line into the bottom of our remelting pot in a circular position. In this line we drilled small holes so as to agitate on all sides of the pot, then we hooked up a safety control valve in the air line so we could control the amount of air at *low pressure*. Now all our remelting man has to do is skim his pot and pour. I hope to have that skimming job simplified soon.

Plunger Cleaning

Plunger cleaning is another drudgery job that takes up a lot of time on a machine line of any size. Even the small lines have trouble getting a uniform cleaning job done regularly. This was one operation which I had had ideas about ever since I cleaned my first plunger. So, when we began having trouble getting a uniform cleaning job done without spending three or four hours of precious time, I decided to build a power plunger cleaner. With a ¾ h.p. motor and a few parts from an old Ewald hand cleaner and a few pieces of ¾ in. pipe, we built a machine that not only gave us a uniform cleaning job but cut the cleaning time to almost one-third of the usual time required. It also did away with stooping and cranking. I think our total cost for this gadget probably cost us about $10.

Lubrication

With this problem eliminated we turned to our next headache—lubrication. With 44 machines running an average of 20 hrs. a day besides all the other floor equipment to take care of, our lubrication problem grew to be what seemed a full time job for each machinist.

On our line we have 24 Mohr saws. Up to about eight months ago we had saws of various ages and models and continuous daily troubles. Our big problem was to get to the source of this trouble and clean it up. In our analysis we found that the trouble came from three sources. First, lubrication. It was almost impossible to keep the bearings packed with grease and it was a never-ending task servicing these saws.

We called in a lubrication engineer from the Shell Oil Co. and placed our problems before him. His recommendation was a multi-purpose, lithium base grease called Retinax A. This grease is heat-resisting and requires 390 deg. of heat to melt it. Yet it has the characteristic of any other type of gun grease. It is easy to handle in a grease gun. Now, where we once serviced a saw every other week, we now service the saw every 3 mo.

Eliminating Saw Models

Our second source of saw trouble was models. We were forced to carry too many different repair parts in stock. So, one by one, we sent our old saws back to the factory and had them rebuilt into current models. This cut our repair work down to a minimum and gave us a uniform line.

Saw Blade Problems

Our third trouble was saw blades. In years past it seemed almost impossible to get a saw blade ground accurately. By this I mean every tooth identical. Every tooth must do its part—not just a few to carry the load.

We solved this problem by insisting that our blades be precision ground. Some time ago, we were having from 30 to 40 dull blades each month. Today we will run maybe 15 blades every two months, which is not bad considering our heavy duty operation.

Fittings in Place of Cups

Like a great many plants, we had a number of older line-composing machine models on our floor. Most all these models were equipped with oil cups which besides giving poor lubrication, were a general nuisance all the way around.

One by one we supplied the machines with Alemite fittings throughout. I would say we cut our cost here by one-tenth or more.

Another item entering into this lubrication problem was belt breakage. We bought belting in excessive quantity. But, since we now have proper lubrication, our belt cost is negligible.

One other problem was to keep grease in the pot lever cam rolls. This problem was eliminated by the use of Retinax A grease.

I expect machine down-time probably is one of the big items in composing room cost. In our plant it is a constant battle

to hold this maintenance down-time to a minimum.

Signal System

Our first step was a proper signal board for the machinists, and the placing of machinists benches along the line. I venture to say we have less maintenance down-time than any comparable composing room in the country. We are now working on a system whereby the machinist will be notified immediately when a machine's distributor stops, whether the operator knows it or not. In many cases, his distributor will have been started without him ever knowing it. This should save a tidy sum in production cost alone each year.

Belt Slippage

Another trouble maker is belt slippage. This not only causes a lot of down-time for the operator but it also causes a lot of trouble for machinists.

As you know, the performance of a line-casting machine is dependent upon a smooth, set speed. Each distributor is timed to a given speed and it must be kept at this speed to get by with a minimum of stops. Every little damp spell causes many leather belts to stretch and then trouble begins.

Recently, after considerable study of various types of belts we decided on a rubberized fabric belt designed for transmissions. We hope to find a cure to our drive belt problems here.

Lubrication Products

In our plant, after some experimentation, we have adopted the following products for lubrication and rust preventive purposes. In this instance, we consulted Shell Oil Co. lubrication engineers. No doubt there are products made by other companies which will serve similar purposes.

Ensis No. 211 Anti-Rust Solution—For preventing rust on saw-trimmer tables, work tops and the like. This is a finger print neutralizer. Do not use for lubricating purposes.

Retinax A Grease—For use in Mohr Saw bearings, and for line-composing machine pot pump lever cam roll, pot lever cam roll and for general greasing. Will not melt under 390 deg. of heat. This grease is supplied with a lithium base. It is waterproof. It is a multi-purpose product for plain or anti-friction bearings.

Vexilla 23 Oil—This is a spindle oil of high grade. We use it in Mohr Saw reservoirs, line-composing machine distributor screws and for occasional oiling of cam rolls. It is stainproof to paper or clothing.

Soluble Oil Concentrate No. L-305—For use in water tanks, or any place where soluble oil is required. It is also a rust preventive.

No. L-306—For Monotypes, consists of 5% graphite and 95% kerosene. For lubrication of operating studs over and around the metal pot. Retinax-A Grease also could be used providing Zerke fittings are installed.

No. 20 Vitrea-33—This is a general purpose oil for lubrication of all types of machinery.

Omala-EP No. EP-85—For use in gear boxes. A rust inhibitor. It is anti-foam under extreme pressure.

A Test For Water In Alcohol

(Prepared by and released through Lithographic Technical Foundation)

AS EVERY deep-etch platemaker knows, anhydrous (without water) alcohol is essential for making good plates by our usual method. Water in alcohol can dissolve a thin layer of gum from the stencil. It may remove enough to expose grain peaks. These will take lacquer and ink and print.

Whether or not this happens, is dependent, of course, on the original thickness of the coating and how much of the stencil was removed by the developing and deep-etching operations. In other words, too much water in alcohol may expose grain peaks if the stencil is thin when the alcohol is applied.

According to LTF, the alcohol washes have two jobs: (1) To wash off the residual developer and deep etching solution and (2) To pick up and quickly evaporate any water in the image areas. The slightest trace of moisture on the image areas will keep the lacquer (or whatever you use for an image base) from sticking tight to the plate metal.

But, even fresh anhydrous alcohol can only pick up a very small amount of water (about 5% of its volume) and evaporate without leaving water on the plate. So, if you use denatured alcohol (which contains about 6% water) or anhydrous alcohol that has picked up too much moisture from the air, it is already loaded with water. It can't pick up and evaporate the water you want to remove from the plate.

Be very careful with anhydrous alcohol. It will pull water from the air whenever the stopper is out of the container or the stopper is not in tight.

How to Test for Water

Regardless of the cause, a simple test will tell you if there is enough water in your alcohol to make it risky to use on a plate. All you need to do is this: Mix 1 part of the alcohol in 20 parts of a straight petroleum solvent like gasoline, benzine, naphtha, kerosene, or Stoddard solvent. Put the mixture in a test tube or a small clear glass container and shake it thoroughly.

A harmful amount of water in the alcohol will cause the mixture to become cloudy. If the mixture stays clear, the alcohol is satisfactory.

Before you test the alcohol, make sure the solvent itself is free from water. If the solvent is clear, it is OK. If the solvent contains a little water, it will appear cloudy. A lot of water in the solvent will settle to the bottom in droplets.

Other Tests

There are also several "color-change" tests for water in alcohol. These are more complicated. One uses anhydrous copper sulfate, another uses potassium permanganate, and another employs chemically treated paper strips fastened to a blotter.

Still another test requires a special hydrometer. This works fairly well if you have an accurate instrument and are careful about the temperature of the alcohol when you measure it. Plate washes are generally mixtures of alcohol and other solvents. Different brands have different specific gravities. So, you have to figure out a range of acceptable hydrometer readings for each brand or type of alcohol that you might use.

All of these tests work. But they are more suitable for chemists than platemakers. Although LTF suggested its "solvent mix" test to lithographers many years ago, it is still the easiest and perhaps the most practical test available. From a chemist's standpoint, it is not highly sensitive. It won't show very small percentages of water. But it does tell you when there is too much water in the alcohol for satisfactory platemaking. In other words, it is a practical test that is sensitive enough to help you avoid trouble, and this is all a platemaker really wants to know.

Three Million Words—
That's a Lot of Words

WE DON'T suppose anyone has ever computed how long it would take him to read 3 million words—and we're not talking about the proofreading profession. Perhaps the computation isn't worth the effort because no good purpose would be served. However, *Printing Equipment Engineer* recently learned through Kenneth W. Beckman, Vice President of Invention, Inc., Washington, D. C., that staff members of that company review an average of more than 3 million words every week.

It is the business of Invention, Inc., in serving its clients, to digest and summarize approximately 900 technically written patents issued each week by the U. S. Patent Office. To illustrate, two sheets of drawings and four pages of specifications and claims may be included in a patent—some more, some less. This size of patent runs to approx. 4400 words. Thus it is easy to see that 3 million words per week is a conservative estimate of Invention's research staff requirements, plus the preparation of summaries and/or abstracts.

To illustrate one of the arbitrary requirements of Invention's patent reporting service, Mr. Beckman explained that the readers pick up every patent which mentions basic metals or chemical ingredients such as nickel, cobalt, gold, platinum, sebacic acid, turkey red oil, carbon black, and others.

Printing Week Stamp Contest

A Printing Week Stamp Contest is again being sponsored by the International Association of Printing House Craftsmen. Winning stamp designs for the past five years are shown above in slightly reduced form.

The contest is open to anyone engaged in the Graphic Arts or allied industries. The design receiving first place award will be the official emblem of 1953 Printing Week. Rules of the contest are printed below.

Millions of the previous Printing Week Stamps have been reproduced in publications, on stationery, posters, enclosures, broadsides, envelopes, blotters and booklets.

Winning awards will be made at the Craftsmen's St. Louis convention (August 10, 11, 12 and 13 inclusive).

Closing date for entries is Saturday, June 14, 1952.

RULES OF THE CONTEST:

1. Anyone connected with the Graphic Arts or allied industries is eligible to enter the contest.
2. Size of stamp is 1 in. by 1⅛ in.; size of finished drawing is 3 in. by 3⅜ in.; drawing must be in black and white—no screens.
3. Design and copy should be appropriate to International Printing Week and should include the words "Printing Week" as well as the dates, January 11-17, 1953.
4. Entries should be mailed to: 1953 Printing Week Stamp Contest, International Association of Printing House Craftsmen, Inc., 18 E. Fourth St., Cincinnati 2, O.
5. Deadline for entries is Saturday, June 14, 1952.
6. Three recognized printing industry leaders will judge the contest.
7. First-place winner of the contest will receive a trophy with appropriate inscription. Certificate awards will be made to the other winners as may be determined by the 1953 International Printing Week Committee. Presentation of the awards will take place at the International convention in St. Louis, Mo.
8. All entries will become the property of the International Association of Printing House Craftsmen, Inc. Decision of the judges is final.

From Black to Yellow in one Press Wash-Up

(Prepared by Lithographic Technical Foundation)

A FAST yet thorough method of washing up a press has been the dream of everyone in a lithographic plant—from the man who does the washing to the owner who pays the bills. The Knox Soap Co. has found a way to do it.

After two years of work, Knox has developed a new wash-up method. It calls for three different solutions which are applied to the rollers, one after the other. When you use the treatment properly, you can go from black to transparent yellow or pink in a single three-step wash-up that doesn't take any longer than a regular wash-up.

Two of the three solutions required are special solvents manufactured by the Knox Company. They are called "Knock-Down" and "Drag-Out," a good description of how they work. The third solution is iso-propyl alcohol (91% or 99%) which you can get from any chemical or solvent supply house.

According to tests at the Lithographic Technical Foundation laboratory, the treatment leaves the rollers in the inking system cleaner than any combination of solvents tried. Even old rollers were made to look, feel, and act like new.

An important advantage is that the solvents are not toxic. They won't hurt you or the roller materials. And, with the exception of the alcohol, they are much less inflammable than our usual petroleum solvents.

Knox has been able to do this with a new scientific approach to the basic problems in removing press ink from rollers.

How LTF Got Into The Picture

Lewis Knox came to LTF about two years ago. He wanted to buy some press time at the laboratory to test a new oil soluble detergent as an additive to our common wash-up solvents. His additive did do a better job. But an extra wash-up was necessary to get it off the rollers. LTF told him that the extra washing time was undesirable.

So, according to a recent report to LTF from Knox, he turned the problem over to a group of physical chemists. In their hands, so the report goes, the washing-up of a press became a study of dynamic equilibrium and reaction rates between moving rollers, pigment, vehicle, and solvents. This, of course, sounds pretty fancy. Maybe what follows will clear it up a little.

A Theory on Roller Cleaning

As you know, ink is basically a combination of pigment and vehicle. The vehicle offers no cleaning problem. Most solvents remove it easily and quickly. But the pigment is a bad actor.

When we are cleaning up a press with kerosene or gasoline, particles of ink pigment come off the rollers and go into the solvent. But some of the pigment stays on the rollers.

The solvent will hold only so many of the pigment particles. When the solvent has all it can carry, a balance or an "equilibrium" is reached. After this time, when additional particles leave the rollers and enter the solvent, an equal number leave the solvent and go back on the rollers.

So, the amount of pigment that is actually removed from the rollers depends on the "capacity" or "efficiency" of the particular solvent you are using.

The second big factor is the time required for a solvent and these pigment particles to reach equilibrium. This is where simple solvents like kerosene and gasoline fall down.

Kerosene, for example, has an efficiency of about 95%. When you apply it to inked rollers, it will pick up and hold about 95% of the pigment particles when equilibrium is reached. This leaves 5% of the particles on the rollers. Then you put on another application of kerosene. When

Offset Press Plates For Long-Run Color Work

ACCORDING to the Lithographers National Assoc. many of the large Chicago mail order companies are now having their catalog covers and many of their color inserts lithographed from the new long-life offset press plates developed since World War II. Long-run color work for Montgomery Ward, Aldens and Siegel, and for other large users of printing in other sections of the country, is now being produced from color plates which give well over 1 million impressions.

The 1952 calendars for Travelers Insurance Co. and for *Esquire* magazine were both printed from the Lithure plates. The Bell Telephone Co.'s 1951 Almanac was printed by over 700 thousand impressions from a set of IPI Tri-metal plates.

Of about a dozen types of new long-life offset press plates, says the Association, the most widely used are the Lithure plate developed by Time, Inc., International Printing Ink's Tri-Metal plate, and the Aller plate invented in Denmark and sold in this country by the Fred'k. H. Levey Co. All of these are multi-metal plates with copper as the base for the planographic printing image, and chromium or other hard metals for the non-image areas. The chemical nature of these surface metals is such that only a very light film of dampening solution is required to repel the ink from the non-image areas.

this reaches equilibrium, it will have picked up about 95% of the 5% that was left on the rollers after the first application. And so on. When the third application reaches equilibrium it will have removed practically all of the remaining pigment particles.

But—it takes about an hour an application of kerosene to reach equilibrium or to pick up its capacity of particles. In other words, rollers would have to be soaked in kerosene for an hour to get its potential 95% efficiency.

When we work with moving rollers, the time of contact between the solvent and pigment is very short. So, instead of an efficiency of 95%, kerosene actually has a working efficiency of only about 30%. With a working efficiency of 30%, it would take 25 applications of solvent to get rid of all the pigment particles.

These are the reasons why it takes so long to thoroughly clean a press with our usual solvents . . . why it takes so long to get a clean yellow after we have been printing black.

In working out a new cleaning system, Knox's chemists had to answer a big question, "What determines the time required for a solvent and particles of pigment to reach equilibrium?" Their answer goes something like this:

The movement of the particles from the rollers into the solvent, is electrical in nature. The particles become electrically charged. The charge on each particle is the same. This makes them repel one another and remain in suspension. The faster the particles become charged, the faster they leave the rollers and move into the solvent.

The solvent itself determines how fast the particles become charged. And this is where these chemists did a job. They found a class of compounds that cause pigment particles to become charged very quickly. Compared with kerosene, these compounds have an equilibrium efficiency of 98% (3% more than kerosene) and, most important, an efficiency of 85% on moving rollers (55% greater than kerosene). It adds up to this: On moving rollers, four applications of Knox's solvents do as much cleaning as 25 applications of kerosene.

Why Three Solutions?

The steps in this new cleaning method are simple. Solvent No. 1 rapidly pulls the pigment particles off the rollers and into suspension. Solvent No. 2 removes Solvent No. 1 and the ink pigment it is carrying. The final alcohol wash removes all traces of the No. 2 solution.

You'll recall that ink pigment particles leave the rollers and move into Solvent No. 1 when they become charged. Solvent No. 2 has to be a special material that doesn't change this electrical charge on the particles. Suppose you used something like gasoline or kerosene instead of solvent No. 2. As soon as it hit the pigment particles that were suspended in Solvent No. 1, the particles would lose their electrical charge and fly right back onto the rollers. Here they would hold like iron filings on a magnet.

This is why three solutions are needed. Each of them has a special job. And they all have to be perfectly matched to one another. The system won't work if you substitute or don't use all three in the proper order.

How to Use the New Wash-Up

The easiest way to apply the solutions is to put some of each in different oil cans. Cans that hold about 10 oz. are convenient. You'll need three cans. Mark them Nos. 1, 2, and 3. Put iso-propyl alcohol in the No. 3 can.

Prepare the plate as you ordinarily should before washing-up. The steps that LTF suggests are as follows: (This method is discussed in LTF's *How to Make and Run Better Plates*, p. 49. It's a good procedure no matter what kind of solvents you use for washing-up.)

With the feeder off and the press running at idle speed, lift the dampeners. After three or four more revolutions, lift the form rollers. Let the press continue running until the plate is dry. Stop the press and powder the image. Use a half-and-half mixture of powdered rosin and French Chalk in a small muslin bag and pat the image thoroughly. Then gum the plate with gum arabic.

Now you are ready for the wash-up. Start the press and run it at idle speed. Make sure the form rollers are off the plate, and apply the No. 1 solution. Put on as much as the rollers will carry without dripping. Let the solution work in the rollers for a couple of minutes. Then tighten the wash-up blade and start to draw off the diluted ink. Keep on applying Solution No. 1 until all the ink that you can see on the rollers is removed.

Then, as soon as the *excess* of the No. 1 Solution starts to leave the top rollers, immediately apply the No. 2 Solution. The idea is to wash off the first solution with the second solution. Start applying Solution No. 2 while the top rollers are still wet with No. 1. *This is important.* As before, put on as much as the rollers will carry without dripping.

When the *excess* of No. 2 starts to leave the top rollers, and while the top rollers are still wet, chase it out with a *liberal* application of the No. 3 Solution (iso-propyl alcohol).

When you finish, check your plate for spatters and regum it if necessary. Then wash the plate out and put it under asphaltum. This is all there is to it. The total time required for the wash-up varies, of course, with the size of the press. In most cases, it will take about the same time that you now need with your present solvents.

This three solution method can do an unusual cleaning job. Many plants have told LTF that they go from black to transparent yellows and pinks with a single one-two-three treatment.

The First Wash-Up

What we have said so far applies fully if you have a new press, a new set of rollers, or rollers that have been cleaned previously with Knox's solutions.

But, if the rollers have been in use, they have picked up and held some of the pigment from the ink you have used on many jobs. Very thin, invisible layers or bits of gum may also stick to the rollers and cover up and seal in the different pigments.

When you first put Knox's solutions on the rollers, it will clean off the ink from the job you have just run. Then, it will also start to take off the ink pigment, glaze, and gum from previous jobs . . . the stuff that ordinary solvents can't dissolve. Watch for this. The first time the material was used on one of the presses in Glessner House (site of the LTF laboratory in Chicago), the black that had just been run was taken off. Then, all of a sudden, red, blue, green, and brown started to come down. It was a regular rainbow.

So, do a thorough job the first time you use the new method. Give the press a complete 1-2-3 wash-up at least twice and maybe three times. Once the rollers are thoroughly clean, a single treatment after each job will keep them that way.

Precautions

There are two things to watch when you use the new wash-up method. First, be sure to keep the form rollers up. Solvent No. 2 dissolves gum. If the form rollers are down during the clean-up, you'll strip the gum as well as the ink from the plate.

Second, be sure you use the different solutions in the correct order. Always follow No. 1 with No. 2, and No. 2 with No. 3. The whole system is based on using the three solutions in the proper order.

As you know, LTF does not recommend or endorse any one particular brand of product over another. In this case, the laboratory was interested in Knox's products because (1) His method of cleaning is a new scientific approach to an old problem, (2) It is believed to be a valuable contribution to the industry, and (3) At the present time and to LTF's knowledge there are no other materials on the market that do the same thing in the same way. If comparable or better roller cleaners are developed and brought to LTF's attention, LTF will report them too.

While this three-step wash-up is good, it is not the ultimate. LTF would still like to have a single solvent or cleaner that would do as good a job as this three-solution method of cleaning.

Where to Get It

Arrangements may be made for your regular litho suppliers to distribute Knox Solutions No. 1 and No. 2. Until these arrangements are completed, write direct to Knox Soap Co., 3300 W. Cermak Road, Chicago 23.

Kellogg Now a Division

At a recent meeting of the shareholders of Kellogg Switchboard and Supply Co., the Plan of Reorganization was approved which provides for the exchange of Kellogg common stock for stock of International Telephone and Telegraph Corp. Under the plan, the Kellogg company's business will be continued by a Delaware corporation of the same name which will be a wholly owned subsidiary of IT&T.

Abstracts of Papers to be Delivered Before TAGA

THE annual meeting of the Technical Association of the Graphic Arts will be held on May 5, 6 and 7 at Hotel Carter in Cleveland.

The meeting will be devoted on Monday and Tuesday, May 5 and 6, to a presentation of papers and a TAGA business session. Wednesday, May 7, will be devoted to plant visitations according to present plans.

The annual banquet will be held on Monday night, May 6. The speaker will be Louis B. Seltzer, Editor of the Cleveland *Press*, who will talk on a timely subject.

After the meetings on Tuesday afternoon, May 6, a trip to the Harris-Seybold plant has been arranged. All of those in attendance will be taken on a tour of the plant and furnished with a buffet supper by Harris-Seybold. The company is also furnishing transportation to and from the plant.

Wednesday morning the committee has planned a trip to Nela Park and the General Electric Lighting Institute. At this time, E. A. Lindsay will speak to the group on *Industrial Light for the Graphic Arts*. Wednesday afternoon, groups will have a choice of visiting the following plants: the Addressograph-Multigraph Corp., Copifyer Lithograph Corp., Switzer Brothers, and possibly a visit to a printing ink plant.

On Wednesday afternoon, a trip to Case Observatory will take place.

Present TAGA officers are: Paul W. Dorst, President; John McMaster, First Vice Pres.; Frank Preucil, Second Vice Pres.; Directors — Frank A. Myers, Richard F. Schaffer and Marvin C. Rogers; Secretary-Treasurer, Paul J. Hartsuch.

Advance registration of $15 covers all meals for Monday and Tuesday, except breakfast, but includes the Banquet on Monday night, May 5.

G. L. Erikson, 3800 Chester Ave., Cleveland 14, O., is Chairman of the Cleveland Meeting Committee.

Through the courtesy of Papers Chairman Frank Preucil, *Printing Equipment Engineer* is publishing the titles of papers and their authors together with abstracts of the addresses to be delivered at the TAGA Conference.

DRY OFFSET — Charles E. Marx, Foreman Photo Litho Section, Bureau of Engraving and Printing. This paper will discuss preliminary work, platemaking, and the printing of Dry Offset. Treatment of zinc plates will be specifically covered. Other phases included will be the photographic work, coating and printing, inking, developing and etching of the metal, beginning of printing and then the running of the plate.

DRY OFFSET PRINTING ON THE OFFSET DUPLICATOR — H. F. George, Merganthaler Linotype Co. The process of printing from a direct reading relief plate by offsetting to a rubber blanket has been called dry offset, letterpress or relief offset, and high etch offset. A substantial amount of this is now done on a small offset press — the Davidson Dual Duplicator. Photoengraved plates on 0.032 in. zinc and etched no more than 0.015 in. are used with standard soft rubber ink rollers. The image areas of the paper may be simultaneously embossed by use of two identical plates. Simplified equipment and standard procedures have been worked out.

PROGRESS IN PRESSURELESS PRINTING — Wm. C. Huebner, Huebner Laboratories. Electric attraction across a paper to plate gap of 0.001 in. transfers ink in a completely workable manner without pressure or wear. The principle of this Electronographic Press and its plates will be explained. Experiments to eliminate inking and drying problems have made use of fine powders. Printed samples of this "Smoke Onset" method will be shown and discussed. Experiments with transparent negatives and positives to replace printing plates have used light as a driving ion force instead of electrostatic pressures. Applications of this principle to office duplicators, phototype composition, and the endless negative belt idea to book production will be described.

APPLICATION OF AIR AND VACUUM TO LITHOGRAPHIC PRESSES — G. Herman Brendt Experimental Engineering Laboratory, Harris-Seybold Co. Air pressure and vacuum used for controlling sheets through lithographic presses is generally produced by pumps of the rotary vane type. Lines leading from these pumps should be of optimum size and contain a minimum of constrictions caused by fittings and valves. A consideration of the factors affecting volume of air delivered at given pressures is dependent upon the configuration of the line and elements it contains. Factors affecting the vacuum at a given point are similar. The size of terminal openings in air and vacuum lines determines the effectiveness with which sheets are controlled in feeders and deliveries. The relationship of these openings bears a direct relationship to the pump line. The force exerted by air jets is proportional to pressure and size. The ability of a vacuum sucker to attract a sheet is more dependent upon line size than upon degree of vacuum.

A NEW APPROACH TO WASHING UP PRESSES—John A. Hinckley, John Hinckley & Associates. The removal of ink from rollers depends on two factors, the degree to which the ink has been transferred to the solvent at equilibrium in a static system, and the rate at which the equilibrium is approached. Kerosene and similar solvents are deficient in both respects. Amide condensation additives have been developed that allow the wash system to smoothly pass over the critical moment when the ink carrying oils are removed from the rolls.

PICK TESTING OF OFFSET PAPERS—Gordon C. Wheeler, and Robert F. Reed, Research Chemist, and Research Consultant, LTF. The LTF Pick Tester is described briefly. The factors related to picking of paper during printing are discussed. They are: (1) Ink film thickness, (2) Ink tack, (3) Pressures attained in printing, (4) The period of contact between paper and printing element, and (5) The rate at which the paper is separated from the printing element. These factors determine both the forces normal to the paper surface and the period of time during which they act. By simulating press conditions as far as these factors are concerned, the LTF Pick Tester attempts to measure the combination of paper properties that are pertinent in determining pick resistance.

A LABORATORY STUDY OF SOME PAPER-INK RELATIONSHIPS — Dr. George R. Sears, Research Associate, The Institute of Paper Chemistry.

RESULTS OF RESEARCH ON RUNNING PAPER WEBS THROUGH PRINTING PRESSES —H. L. McWhorter, Chief Research Engineer, Goss Printing Press Co. Paper rolls must be wound at high web tensions at the mills so that the rolls can be shipped without telescoping. Web tensions normally desired on printing presses are appreciably lower: giving a factor of safety over proven paper strength of the order of ten. Therefore, defects in paper are not a primary cause of web breaks; breaks in a running web are due to abuse. Breaks occurring at defects in the web are exactly similar to a chain that breaks at its weakest link. It is a general belief in the industry that web weave (indeterminate side-lay position of the web) is due to variations in the paper. Drastic localized variations in the paper inducted by water mist spray show in laboratory tests to be incapable of producing web side-lay by itself. Investigation showed that web breaks and web weave are caused primarily by misalignment in the machine, due to causes not previously considered. Scale models are available for demonstration. New features now being introduced in press designs will make web breaks and web weave very rare; reduce spoilage and production costs while improving quality.

PROGRESSIVE PROOF IN PRINTING PRODUCTION IN THE USE OF STATISTICAL QUALITY CONTROL — Donald Macaulay, Paper Quality Control, Inc. The fundamentals behind the approach to statistical quality control will be discussed, with observations on the

installation and problems of installing the system. Two demonstrations of the use of control techniques in analyzing raw materials and two demonstrations showing the application of quality control techniques in the pressroom will be shown.

SPECTRAL SENSITIVITY OF BICHROMATED ALBUMIN — R. W. Koch and Don J. Byers, Battelle Memorial Institute; and Robert E. Rossell, Engineer Research and Development Laboratories. Equipment and procedures for a new method of measuring the extent of tanning will be described. The method is based on the change in optical transmission of the albumin film as tanning takes place. Data will be presented to show the effect of pH on the spectral sensitivity.

SPECTRAL SENSITIVITY OF PHOTOSENSITIVE ACID RESISTS —Brian O'Brien, jr., American Newspaper Publishers Assoc. Laboratories. Several resins, both synthetic and natural, used as acid resists in photoengraving, are rendered photosensitive by the addition of alkali dichromates. The mechanism of this photosensitization is not entirely clear, and the spectral sensitivity of the reaction for widely different resins may be of aid in a study of the reactions involved. In addition such sensitometric data are useful in the practical application of the resists. Aluminum plates, coated with the resins, were exposed in a medium quartz spectograph using a controlled White Flame arc and rotating logarithmic spiral sector to produce wedge spectra. Calibration of the spectral energy incident on the plate was made from 2500A to the long wave length sensitivity limit of the material at 5000A. Spectral sensitivities for the several resins are qualitatively similar when expressed in terms of incident energy. Coating thicknesses are of the order of 1 micron. At this thickness only a fraction of the incident energy is absorbed, as shown by transmission spectra through similar coatings on crystalline quartz plates.

NEW NON-BICHROMATED PHOTOMECHANICAL RESISTS—Alexander Murray, Kodak Research Laboratories. Experience with resins photosensitized with the odoriferous and slightly volatile iodoform in solid solution led to the discovery of photosensitization of resins by solid solutions of non-volatile, organic chalcone-resembling compounds containing ethylene groups. These resists are practically changeless with years of storage but involve low development latitude and hand swabbing. More recently, photosensitive long-chain polymers were made which, on light exposure, formed insoluble images with infinite development latitude without swabbing. These provide the basis for experimental, stable photomechanical resists, the properties of which will be described in this talk. The author will also describe the techniques which will get the most out of the material when used for photoengraving metals, lithography from grained zinc, lithographic grained or ungrained aluminum, paper plates, and bimetal plates.

DIAZO SENSITIZERS — George W. Jorgensen, Supervisor, Photo-sensitive Div. Lithographic Technical Foundation. Since the war, considerable interest has revived in the use of diazo compounds as image forming materials and as a substitute for bichromated plate coatings in lithography. This paper briefly reviews (1) Some of the diazo materials, (2) The early patents of Kalle and Co. of Germany, and (3) Some of the work on diazo surface and deep-etch processes at the Lithographic Technical Foundation.

ALL ELECTRONIC COLOR CORRECTION: A PROGRESS REPORT —John S. Odell, New Products Div., Radio Corporation of America. The Interchemical electro-mechanical equipment for automatic color correction has previously been described. Since RCA took over the project, active development work has been and still is in progress on an all-electronic model. While the basic method of correction is the same as that in the earlier model, the final equipment will offer increased speed, greater reliability, lower weight and much quieter operation. This paper is in the form of a progress report, since it will be some time before a commercial device is available. Work with commercial firms is continuing to demonstrate a high degree of automatic correction by use of the device and is also aiding in setting up standard procedures applicable to the several printing methods. This work has pointed up the fact that careful control in the preparation of four separations that are theoretically correct justifies the establishment of definite standards and rather rigid controls, so that full advantage may be taken of the available degree of correction provided by the equipment.

A SIMPLIFIED SYSTEM OF COLOR LITHOGRAPHY—Henry C. Stachle, Kodak Research Laboratories. A process of color printing has been developed which departs from conventional methods in the following ways: (1) All color correction is achieved protographically; (2) Printing is done in three colors instead of four; (3) All the printing is done with 266 line halftones; (4) Printing is done using Kodak Ektalith printing plates; (5) The printing is done on Multigraph Duplicators; (6) All registration is done by mechanical means, and (7) The method is worked out primarily for making reproductions from 35mm. Kodachrome slides. The methods worked out for this process make it possible to print short runs economically but at the same time many of the above mentioned points can also be applied to conventional color printing.

A NEW APPROACH TO THE PHOTOGRAPHIC PROBLEMS OF COLOUR PROTO-LITHO — D. C. Gresham, Research Laboratories, McCorquodale & Co., Ltd., London. The photo-litho process, using a cross line screen, normally gives poor tone reproduction unless a considerable amount of handwork is introduced at some stage. In colour reproduction work, the well-known errors due to unwanted spectral absorptions of the printing inks are superimposed upon those caused by poor tone-reproduction characteristics. A process has been developed by which screen positives are made directly from colour originals. During the reversal process, both tone reproduction and colour corrections are introduced. The theory and practice of this process will be outlined.

Printing Employment Bureau

Organization of an employment bureau serving the printing industry on a nationwide basis was announced recently by the Graphic Arts Employment Service of Cincinnati, O. What is thought to be the first employment agency of its kind in the country, the bureau will specialize in placement of executive, supervisory, sales and technical employees.

The agency will deal exclusively with the Graphic Arts industry and will handle placement in the letterpress, offset, gravure and silk screen divisions of the industry. It will include the following branches: book manufacturing, bookbinding, commercial, electrotyping, folding carton, machinery, equipment and supplies, photoengraving, publication, set-up box, specialty and typography.

It was stated there has been no national clearing house for such employment, although there are more than 32 thousand Graphic Arts business firms in this country. The employment service has been established to fill that need.

The Graphic Arts Employment Service, licensed by the State of Ohio, will handle placement problems of employers and prospective employees wherever they may be, according to Miss Helen M. Winter, Office Mgr.

It is a fee agency, but an applicant pays only if he is placed in a job. There is no charge for registration. It also will be possible for employers to offer to pay the placement fee as an inducement if they wish to do so. All inquiries and assignments will be treated in strictest confidence.

Further information and a fee schedule may be obtained by writing to the Graphic Arts Employment Service, Rm. 805, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.

Named Sales Agents

The John Hewson Co. has been appointed general sales agents for the Industrial Staticator, an automatic static detecting and warning device, manufactured by W. E. Anderson, Inc. Said to have been given an explosion-proof rating by Underwriters Laboratories, the units are used as a safeguard against static-caused fires and explosions. More information can be obtained from the Hewson company located at 106 Water St., New York 5, N. Y.

Milwaukee *Journal* Photo

Craftsmen Visit Milwaukee Journal—A tour of the mechanical departments of the Milwaukee *Journal* was taken recently by 220 members of the Milwaukee-Racine Craftsmen's Club. Shown above are some of the Craftsmen in the stereotype department being shown color plates by Joseph McMullen, Asst. Production Mgr. at the *Journal*. McMullen was assisted in conducting the tour by the following departmental directors: William Westerman, art; Robert Dumke, photography; Edward Moldenhouer, dispatch; Louis Gilg, composing room; Harry Wrasse, stereotyping; Henry Arbogast, photoengraving; Leroy Schulz, pressroom; George Feldt, mailroom and Leslie Guerndt, paper and ink.

Mid-Atlantic Considers Today's Problems

A RECORD attendance of 550 was reached at this year's Mid-Atlantic Newspaper Mechanical Conference held in Philadelphia, March 20-22. Jointly sponsored by the Pennsylvania Newspaper Publishers' Assoc. and the New Jersey Press Assoc., the Conference was attended by newspaper mechanical and production executives from eight states and the District of Columbia.

Conference chairman Herbert G. Taylor, Production Mgr., Bethlehem (Pa.) *Globe-Times* and Atlantic City (N. J.) *Press-Union*, and Conference Director Theodore A. Serrill, General Mgr., PNPA, expressed their opinion that the 27 manufacturers and suppliers of equipment and services to the printing industry staged an outstanding exhibition.

Keynote to the opening session, devoted to composing room problems was expressed by Samuel G. Blackman, Associated Press, Chief of Bureau, New York Office. He declared the growth of Teletypesetter operation to be the "hottest thing in the newspaper field today." Blackman predicted, "By midsummer, AP-TTS wires will be delivering tape to newspapers operating in nearly every state." Admitting that TTS growth is limited by problems of getting equipment, he quoted random comments from AP newspapers now getting TTS service: "There is a definite saving of composing room costs. Our paper uses 59 per cent of the report, setting 199 galleys a week from tape." He added, "An estimated 70 per cent to 80 per cent of all wire service is converted to tape from type."

Another member of the TTS panel, Frank B. Foster, Research Specialist, Intertype Corporation, said, "The high speed Intertype machine, when equipped with the delay-action TTS operating unit, will produce up to 12 lines of single-column straight matter per minute."

Louis Rossetto, Director of Research, Mergenthaler Linotype Co. discussed the objectives, design features, and operating experience with the Comet Linotype. He revealed the results of a survey just completed of West Coast and Canadian installations, which he summed up as follows: "Machine operation has been very good, but one fact is apparent. Machine maintenance must be good, since an automatic device makes no allowances; all adjustments must be correct, and the machinist must maintain the things he is supposed to maintain. He cannot be sloppy, and must stay on his toes."

In the general discussion that followed, it was suggested that perforator operators should be instructed in Linotype operation.

Albert Schirm, Mechanical Supt., Scranton (Pa.) *Tribune*, said, "The composing room is the nucleus of the entire newspaper enterprise. This is the department where the publisher spends most of his money.

Composing Room Layout

Discussing the ideal layout of the composing room, he continued, "Sometimes a complete revamping of this room can save many dollars, and at the same time, increase the efficiency of both men and machines. The final layout of the room should eliminate as much wasted effort as possible. Optimum efficiency can best be achieved by the formation of a triangle with the apex of the triangle being the copy desk and the base of the triangle the line machines, and, within the physical limitations of the newspaper plant, this goal should be sought."

Mr. Schirm closed his remarks with this warning: "It is imperative that the alert superintendent not lose sight of the progressive and time-saving mechanical devices brought forward. Remember that too much conservatism can easily ruin the best planned schedule."

Efficient composing room operation demands planned manpower coverage and only through rigidly observing advertising deadlines can such coverage be properly planned in advance, is the opinion of A. H. Tolley, Asst. Mechanical Supt., Philadelphia *Inquirer*.

Copy Flow-Manpower

He said, "To keep our production forces steadily at work requires a balance between copy flow and scheduling of manpower, First, we must find out how we can regulate the influx of advance copy by deadlines—then we can regulate the starting time of our help."

He pointed out that three years ago the Philadelphia *Inquirer* instigated a more stringent deadline set-up. Commenting on its success, he said, "We feel that the primary objective was accomplished . . . we have obtained more production room for new composition; we have weapons with which to insure a reasonably continuous flow of advertising copy when we want it; we have a defense against unreasonable revision and engraving demands and by showing our larger advertisers what it costs them to violate deadlines by extreme lateness or excessive revisions, we believe we have saved them money. Some of this money undoubtedly comes back to us in the shape of additional lineage, in effect, a bonus for enforcing deadlines."

Speaking from the floor, Edward J. Traverso, Composing Room Fm. Vineland (N. J.) *Times-Journal*, related how his newspaper solved the revisions problem. With the full backing of the publisher, they decided to allow only one revision without extra cost. After that, any alterations over and above changes from the original copy were to be charged at a $7.50 per hr. Strictly enforcing the rule, they lost a few advertisers at first, but eventually they all returned.

Mr. Shanahan said his own experiences were much the same as Traverso's, but added that "management backing is absolutely essential to insure the plan's success."

Also participating in the composing room session were George Lengyel,

TTS Style Manual

Warren H. Detwiler, Mechanical Supt., Lancaster (Pa.) Newspapers, Inc., and Co-Chairman of the composing room session at the Mid-Atlantic Mechanical Conference, suggested that a Teletypesetter style manual be developed. He said, "If we are all going to continue to murder the King's English the way we do, why don't we all do it alike?"

Linotype Machinist Operator, Somerset (N. J.) *Messenger-Gazette*, and Earl E. Keyser, Editor, Lancaster (Pa.) *Intelligencer-Journal*.

The combined pressroom and stereotype session was headed by John A. Lohan, Stereotype Supt., Philadelphia *Bulletin*. The session included a discussion on newspaper ink, by Joseph Curado, Sun Chemical Corp., and a talk *Color in Advertising* by Harry Eybers, Production Mgr., Washington (D. C.) *Post*. A pressroom panel included Harvey Broad, Pressroom Fm., *Newsday*, Hempstead, N. Y.

A stereotyping and mat shrinkage panel included Howard J. Mehigan, Stereotype Supt., Bridgeport (Conn.) *Herald*, and President of the New England Newspaper Mechanical Conference; James Roberts, Stereotype Fm., Passaic (N. J.) *Herald-News*; and John J. Oliver, Mechanical Supt., Afro-American Newspapers, Baltimore, Md.

News Ink Research

Joseph Curado, describing the scientific research and study behind finding the proper formula for news inks, said: "Once a formula has been established which gives a minimum of second impression offset, strikethrough, showthrough, smutting and misting, these complaints will remain at a low level until conditions on the press or the paper develope some abnormality." He pointed out that the best of news inks will have these troubles if the fountain and roller settings are such that the plates are flooded. He said, "Many adverse experiences are the result of press conditions which develop the latent evils in the ink."

"The perfect ink would behave ideally irrespective of press and paper. One can-

Some of Those in Attendance at Mid-Atlantic Mechanical Conference

(From left to right):

1.—Vernon Spitaleri, Manager, ANPA Mechanical Dept.; Joseph Curado, Sun Chemical Corp.; William Pollock, Sales Mgr., Federated Metals Div., American Smelting & Refining Co.; Harry Eybers, Production Mgr., Washington (D. C.) *Post*; James P. Grant, Mechanical Supt., Philadelphia *Bulletin*; Harry G. Taylor, Production Mgr., Bethlehem (Pa.) *Globe-Times*; and Charles Merbitz, Federated Metals Div., American Smelting & Refining Co.

2.—William K. Ulerich, President of PNPA; Charles M. Ray, Vice Pres. of NJPA; Albert Schirm, Mechanical Supt., Scranton (Pa.) *Scrantonian-Tribune*; A. H. Tolley, Asst. Mechanical Supt., Philadelphia *Inquirer*; and Frank B. Foster, Intertype Corporation.

3.—J. Thomas McHugh, J. Thomas McHugh Co.; F. Stanton, Philadelphia *Bulletin*; George H. Truss, Philadelphia *Bulletin*; Henry F. Black, Philadelphia *Bulletin*; and Everett G. Shafstall, Shafstall Equipment Co.

4.—Charles D. DiJorio, Composing Machinist, Wilmington (Del.) *News-Journal*; Edgar A. Mills, jr., President, Eastern Newspaper Supply, Inc.; Nicholas Marterella, Stereotype Supt., Camden (N. J.) *Courier-Post*; John A. Lohan, Stereotype Supt., Philadelphia *Bulletin*; and A. F. Nolan, Nolan Corporation.

not seriously hope to attain such a perfect ink but many researchers have devoted their best efforts over long years to bring about basic improvement in news inks. It is generally recognized that a majority of the problems that confront the Graphic Arts would disappear if we could devise ink which would convert from fluid to solid instantaneously on contact with the paper."

Mr. Curado related various experiences and researches that are constantly conducted in the laboratories. He concluded that from such study, "has come the better news inks of today, and continuing study guarantees future improvement. Ink misting or flying is a serious and costly nuisance. We have definite evidence that this can be controlled and it is safe to predict that inks of appreciably reduced misting will be available in a year or so."

John J. Oliver, Mechanical Supt., Afro-American Newspapers, Baltimore, Md., related his newspaper's experiences in cutting roll size first from 66 in. to 64 in.; and now faced with additional rising costs in newsprint, how they would further cut down to 62 in. rolls.

The photography and photoengraving session got off to a good start Saturday morning under the chairmanship of Jules Plangere, Engraving Supt., Ashbury Park (N. J.) *Press*, and co-chairman, Nicholas M. Fellman, Mechanical Supt., Chester (Pa.) *Times*. Participating on a panel discussion of the Fairchild Scan-a-graver, were Wallace C. Douglass, Fairchild Camera & Instrument Corp.; Fred Lewis, Washington (N. J.) *Star*; and Joseph F. Rudick, City Editor, Phoenixville (Pa.) *Republican*.

Scan-a-graver Technique

Douglas reported that close to 700 Fairchild Scan-a-gravers are operating in the newspaper field now. On the subject of direct printing vs. molding, Mr. Douglass explained how the original troubles of molding had been overcome, only to have the "craze for high mat shrinkage to conserve newsprint" come along, which is not conducive to the best reproduction from any kind of engraving. Therefore, direct printing once again comes to the rescue.

This method has advantages and disadvantages. Without molding there is no limit on shrinkage. Many papers have been able to go to 85 screen giving better detail. No delay waiting for last minute cuts in the composing room. One disadvantage of course, is for the papers that print two or more up and must make extra cuts for each press plate.

Mr. Douglass told of one trouble . . . the cuts sliding under the mat roller . . . was solved by rubbing some Fels Naphtha soap on the back of the cut or on the base.

During the panel discussion, Joseph F. Rudick, explained, "There are certain aspects of the Scan-a-graver's product which must be understood by the mechanical department in order to carry through the chain of production in a manner assuring best reproduction results. With a top-notch photograph, the engraving machine operator usually can produce a top-notch engraving. But final reproduction of a plastic cut can be affected by rough handling and carelessness."

Scratches, gashes, alcohol splashes, bad cropping are some of the damages that occur in the mechanical department that can be eliminated through understanding and complete frontroom-backroom cooperation.

According to Nicholas M. Fellman, "More than 100 newspapers mold the plastic plate with success."

Speaking on *The Proper Preparation of Newspaper Art Work*, Milton R. Voeks, Art Director, Philadelphia *Inquirer*, outlined some of the things to avoid in newspaper reproduction. Inefficient tone separation, too great a reduction, and vignettes create some of the major problems. Voeks said, "Vignettes should be avoided because stereotyping has a tendency to cause a burr around the edge which will print heavy and sometimes look like a line."

S. G. Hall, Eastman Kodak Co., reported, "There have been under development for several years new metal sensitizers which early tests indicate will improve the quality of photoengravings. These sensitizers are of an entirely new formulation and are not in any sense similar to metal sensitizers now being used by the industry."

Hall revealed that research work is being carried on to develop the use of the Kodak Magenta Contact Screen in photoengraving. There is also a study being made of tone reproduction and tone control for halftones.

Engineering Analysis

In the opinion of Dr. Robert H. Roy, Assoc. Prof. of Engineering, Johns Hopkins University, who spoke at the Saturday afternoon luncheon, "the Graphic Arts industry, including newspaper plants as well as commercial printing plants, has not seen fit, generally speaking, to seek improved manufacturing procedures through the application of engineering analysis, and has, therefore, fallen somewhat behind other industries in the calibre of its technology. Newspaper production is in the last analysis nothing but manufacturing and the same kinds of engineering analysis that have succeeded in other fields of manufacturing are just as applicable here.

"I would urge you to consider additions to your staff of persons employed for the sole purpose of analyzing how your tasks are carried out, with the objective of effecting improvements in them."

J. P. Grant, Mechanical Supt., Philadelphia *Bulletin*, and Vice Chairman of the Conference, presided at the luncheon session.

A smaller-city newspaper session was presided over by, Chairman Walter E. Sheldrick, Mechanical Supt. Ridgewood (N. J.) *Herald-News*, and Co-Chairman John C. Price, Mechanical Supt., Waynesboro (Pa.) *Record Herald*. Mr. Sheldric said: "Delays and unnecessary expense is too often the result of plant maintenance being neglected in the smaller newspapers where no regular machinist or electrician can be maintained on a full-time schedule."

Maintenance Chores

E. M. Stacey, Application Engineer, General Electric Co., discussing modern press drives said, "While the electronic press drive is most adaptable to large metropolitan presses, it has been applied successfully to presses as small as the one high-speed octuple. Electronic drive has a number of advantages. Its power factor and efficiency over the operating speed range are very high. Installation costs are reduced to a minimum by virtue of factory assembled and wired cubicles. Little heat is dissipated in the control room, so special ventilation is not required."

The newspaper mechanical superintendents' biggest headache . . . maintenance . . . can become merely another small job to be done, with the installation of a daily, weekly or monthly maintenance schedule program. That is the opinion of Ardell Ensweiler, Mechanical Supt., Milton (Pa.) *Evening Standard*. He said, "As the result of such a program we find that over a period of a year, our parts and supplies costs have been reduced by at least 10 per cent over what they had been before."

Ensweiler made this observation, "Suffice it to say that good equipment . . . kept that way . . . helps any good printer to do a better job, and keeps him contented in his job. Stressing maintenance is of greatest importance, not only for the good of the people producing the work, but for the good of the entire plant in reducing down time.

Also participating on the panel session, devoted to *Better Production—Less Waste*, were J. Thomas Brooks, Mechanical Supt., Jeannette (Pa.) *News-Dispatch*, and Andrew Lazarchik, Composing Room Fm., Latrobe (Pa.) *Bulletin*.

Now Technical Consultant

Lester Yeager, until recently Production Mgr. of the Los Angeles *Times*, resigned that position in March. As President of the Yeager Newspaper Machinery Supply Corp., he and his associates will handle the ink pump and portable fountain washup machine described some time ago in *Printing Equipment Engineer*. In addition to these activities, he has announced that his services as a newspaper technical consultant are now available any place in the United States. Previously, Mr. Yeager has been connected with a newspaper plant in Ohio, a New York platemaking plant and later for some time as production manager of the Indianapolis (Ind.) *Star*. He has been production manager of the Los Angeles *Times* for several years.

Equipment for RIT

The installation of a Blue Streak Comet and a High-Speed Intertype line composing machines was made recently by the Mergenthaler Linotype Co. and Intertype Corporation respectively in the machine composition laboratory of the Publishing and Printing Dept., Rochester Institute of Technology.

"Our New Model 33 Linotype cut hand-set composition 95% . . .

We're saving $40.00 a week in overtime alone"

Writes W. Ward Pegram, Editor and Publisher, THE CHESTER NEWS, *Chester, S. C.*

"Before we installed our new Model 33 Wide Range Linotype, we hand-set everything over 14 point, or about 40% of our work. Overtime averaged 19 hours a week. The Model 33 really changed that. Overtime has dropped to only 2 hours a week. Everything through 36 point is set on the 33, and hand composition is now only 2%.

"We proved to ourselves on one of its first assignments how much difference a new Wide Range Linotype could make. Using our former methods, it took 27 minutes for our operator to finish an ad. Then he set the same ad on the Model 33 in **4 minutes flat.**

"We use the 33 for all kinds of work: food store, straight ad display, news heads, ad body matter and news body matter. Besides the savings in composition time, we've found the new Linotype has cut 15 hours a week off makeup time and saves us an hour a week in lock-up.

"The Model 33 has enabled us to handle a lot more job printing, too. The work we do is better looking, and we get the same savings in time here as we do on the newspaper. Like other Model 33 owners, we wonder how we ever got along without such a machine."

Why not ask your Linotype Production Engineer to help work the advantages of a Wide Range Model 33 Linotype into your composing room? Mergenthaler Linotype Company, 29 Ryerson Street, Brooklyn 5, N. Y.

• LINOTYPE •

Set in Linotype Caledonia and Gothic No. 13

Proud and Pleased—The three men above (left to right) are: Ralph Moffett, Mechanical Supt.; J. C. McClung, Pressroom Supt., and E. J. Smith, Stereotype Supt., of the Dallas (Tex.) *Times-Herald*. All attended the February meeting of the SNPA (Western Div.) Mechanical Conference in Houston, Tex. These executives are admiring the well-earned (but unanticipated) plaque which was presented to Mr. Moffett for his excellent services as Chairman of the 1952 conference.

Western Div. (SNPA) Conference

AS HAS been the case with a number of other current newspaper mechanical conferences, the predominating topic for discussion at the SNPA Western Division Conference in Houston, Texas, the latter part of February, was the Teletypesetter system of automatic transmission of taped news matter and slug machine operation. Among other actions taken by the Conference was the passage of a resolution urging newspapers and advertisers to adopt an 11½ pica wide column with 6 pt. column rule as the standard column width.

Approximately 300 mechanical and production executives, together with a liberal attendance of manufacturer and supplier representatives were present.

One of the actions taken by the Executive Committee was that three new representatives of smaller newspapers be added to the Committee so that the smaller papers could have representation in conference proceedings. The new members are Rupert Cooper of the Norman (Okla.) *Transcript*, R. E. Miller of the Sherman (Tex.) *Democrat*, and A. L. Borho, Mechanical Supt., Lubbock (Tex.) *Avalanche-Journal*.

Executive Committee

Three new members of the Executive Committee were elected to replace expiration of the terms of O. M. Harper, Ralph R. Moffett, as well as Houston Awalt who passed away several months ago.

The new members of the Committee are Lewis Bordman, Machinist, Ft. Worth (Tex.) *Star-Telegram*; Leven T. Deputy, Mechanical Supt., Dallas (Tex.) *Morning News*, and Carl P. Lawrence, Composing Room Supt., Tulsa (Okla.) *World-Tribune*.

The remaining members of the Executive Committee whose terms have not expired as yet, are as follows: (Terms expire in 1953): Elmer Hodgkinson, Assistant Prod. Mgr., Oklahoma City (Okla.) Publishing Co.; L. W. Thornton, Shreveport (La.) *Journal*, and F. R. Rice, Composing Room Supt., Little Rock (Ark.) *Democrat*.

(Terms expire in 1954): Arch Dixon, Photoengraving Supt., Oklahoma City (Okla.) Publishing Co.; Palmer Black, jr., Mechanical Supt., Amarillo (Tex.) *Globe-News*, and Paul Tanner, Pressroom Supt., Houston (Tex.) *Post*.

Teletypesetter Tape Operation

"The real secret of high production with the Teletypesetter, lies in its ability to operate steadily hour after hour without stopping," so said W. D. Hargraves, Mechanical Supt. of the Lawton (Okla.) *Constitution & Morning Press*. "To attain this kind of stop-free operation, your machines will have to be tuned to run better than they did with manual operation. It doesn't make any difference whether something major or something minor stops the machine—if it is stopped, so is production. The operating condition of the typesetting machine can make or break the Teletypesetter."

Mr. Hargraves related that his papers started Teletypesetter operations about a year and a half ago, with two operating units and three standard perforators. The two operating units were installed on two nearly new typesetting machines—a Model C Intertype and a Model 31 Linotype.

He said, "We set all of our classified ads, legals, most of the straight news matter and some column and a half editorial page copy. We started last summer during baseball season to set all sports tabulations, box scores and things of that sort.

"We now have three machines operated by Teletypesetter—the last to be converted being a Model 31 Linotype about 9 yrs. old. We will probably install a fourth operating unit on a Model C Intertype which we have had for many years." He related that the machines are operating at 7½ lines per min. with mold cooling blowers but are not equipped with quarter-turn mold turning segments.

He stated that all of the machines have more than two magazines, which is not good. The machines have to be stopped occasionally to set some type manually out of the extra magazines. It was his statement that because of the foregoing experience, "type for anything except Teletypesetter use should not be placed on these machines."

He discussed installation of the UP Teletypesetter circuit and the AP circuit. These wire services consist of tape punched to set type with fonts of 118 pts. lower case count and, therefore, no agate or 6 pt. comes through this tape. He said, "we do have a font of 6 pt. Teletypesetter matrices which can be used with the regular 8 pt. tape by changing the machine jaws to 11 picas. After setting into type, saw 6 pts. from the left end and add a 6 pt. slug to the right side. This can be used readily on the sport pages for results of games and other statistics. He stated that newspapers with columns 11 pt. 9 picas wide can use these wire services by purchasing special matrices which allow for difference in column widths.

In discussing the subject further, Mr. Hargraves said: "These Teletypesetter wire services present some new problems all their own. We could not and would not use all of either service. They are sent to your shop at the rate of 53 words per min. and during a day's operation will send tape equal to about 20 columns of type. It is impossible for us to set all of these 40 columns into type and then throw away what we do not use. Our monitors or copy Teletypes are located in the editorial offices. The copy is typed line for line as it will appear in type. We take a line gauge and by measuring off how long nine typewritten lines of copy are, we can score the smooth backside of the gauge so it can be used to measure exactly how long each story will be in type. Each editor has one of these home-made gauges. The copy is selected, edited, a head written, and the guide line added to the copy. All changes are marked on the copy and if there are killouts, they are marked out—not torn off. The number on the copy will correspond to a number punched in the tape. Then, the copy is turned to the Teletypesetters, the tape is found and run through the machines."

Mr. Hargraves explained that his papers' reperforators, which reproduce the tape to match the copy, are located adjacent to the machines so that the tape can be run directly into the operating keyboard. These reperforators, one to each machine, are on the same wire with the monitors in the editorial office. All the wiring terminates in a switch located in the tape room. By means of this switch, the United Press or Associated Press tape can be made to come in on any one of the four reperforators.

The tape punching room is air conditioned, almost soundproof, and is located in a balcony overlooking the composing room.

All copy comes to the composing room where it is routed to the different machines. All AP and UP Teletypesetter copy is hung on a separate hook near the Teletypesetters where it is used to locate the tape to go with the stories.

He said: "One advantage gained by Teletypesetters is that any copy which can be received early, like special editions, legals and all time copy, can be punched into tape and run into type any time you choose. You can utilize other-

MODERN Photoengraving

by Louis Flader and J. S. Mertle

TEXT prepared for those in need of technical information. Especially suitable to printing's production and mechanical executive. Included are a glossary defining 775 trade terms; 18 chapters (each dealing with a branch of photoengraving); 47 Tables of Data; 392 illustrations; 206 Chemical and Mathematical Formulas; Tables of Weights, Measures and Conversions, Process Hygiene, and 21 pages of Index.

Price $15 postpaid in U.S.A. $16 in countries outside U.S.

PRINTING EQUIPMENT *Engineer*

1276 W. 3rd St. Cleveland 13, O.

Ninth Production Yearbook

A Fine Reference Volume For Mechanical and Production Executives

Commercial and newspaper printing plant executives will find constant use for this encyclopediac volume.

Many new features included on photoengraving, typography, electrotypes, printing processes, paper, binding, mailing and photography.

Size, 8½ in. by 11¼ in.; 918 pages include 4000 subjects listed in the index, 659 editorial illustrations, and other features.

$15.50 per copy
Postpaid in U. S. A. only

PRINTING EQUIPMENT Engineer
1276 W. 3rd St. Cleveland 13, O.

Manual of Stereotyping

By Joseph D. Goggin

•

The essential factors of stereotyping — equipment, materials, and manipulation—are discussed in this 256 page manual by a man who has had extensive practical experience and study in the process. The all-important preparation of the form from which the mold is to be made and the molding and casting procedures are thoroughly explained from the standpoint of the requirements of the process. A Glossary and Encyclopedia gives definitions of terms used by stereotypers.

$5.25 per copy
Postpaid in U.S.A. only

PRINTING EQUIPMENT Engineer
1276 W. 3rd St. Cleveland 13, O.

Handbook for Pressmen

BY FRED W. HOCH

This is a practical technical discussion of all platen and cylinder press operations in the commercial pressroom. The language used by the author is *your* language—the text is written simply and pertains to the operations actually preformed in the pressroom.

To give an idea about the contents of the book we quote some of the chapter titles:

- Methods of Line-up
- Presswork
- Makeready, Platen Presses
- Makeready, Cylinder Presses
- Overlays and Makeready
- Close Register
- Setting the Rollers
- Overcoming Offset
- Workups—Cause and Remedy
- Slurs—Cause and Remedy
- Repairing Plate Batters
- Ink
- Color Mixing and Matching
- Metallic Inks

Some of the more unusual operations to many pressrooms are covered by the author in the following chapters:

- Printing Water Color Jobs
- Two Colors on One-Color Press
- Patent Base Speeds Imprint Jobs
- Printing on Cellophane
- Printing Facsimile Letters
- Details of Embossing
- Hot-Plate Embossing and Paneling
- Gum Label and Embossed Seal Printing
- Die-Cutting Methods
- The Stencil Screen Process

And much other valuable pressroom information. This book is bound in brown cloth, contains 236 pages, 6 in. by 9½ in., is well illustrated with line diagrams and a number of charts.

$4.25 per copy

Because of the small handling margin please enclose cash with order.

Printing Equipment *Engineer*
1276 West Third St.
Cleveland 13, Ohio

HOW TO ADJUST WORK-UPS

By Wm. H. Lichter and Geo. F. Smalley

This 24-page booklet analyzes causes of work-ups and gives proper procedure for locking up forms.

PRICE $1.00 CASH WITH ORDER

PRINTING EQUIPMENT *Engineer*
1276 WEST THIRD STREET, CLEVELAND 13, OHIO

Mechanism of the Linotype and Intertype

Written for Machinist-Operators, Machinists, Superintendents and Students

Technical operating knowledge of the Linotype and Intertype is available in the 14th edition of this 334 page book. Revised and amplified by Oscar R. Abel and Windsor A. Straw, the text includes 200 illustrations. Information has been added about late improvements in the machines. A practical and essential book for every composing room.

$5.15 per copy
Postpaid in U.S.A. only

PRINTING EQUIPMENT *Engineer*
1276 W. 3rd St., Cleveland 13, O.

Pressman's Ink Manual

By George M. Halpern

PROBLEMS related to and caused by inks are covered in this 182 page reference guide for pressmen and beginners. Topics include: Relationship of ink to stock; common ink problems, their causes and remedies; where and when to use special inks; latest developments in printing inks; how to prepare and use an ink log; procedure for process printing; handy reference charts for mixing and matching colors, estimating inks, determining proper screen to use, and many others.

$6.25 per copy
Cash with order

PRINTING EQUIPMENT Engineer
1276 W. Third St.
Cleveland 13, O.

Production in Advertising

by David G. Hymes

A Handy Reference Guide for the Experienced Craftsman, Beginner, and Layman

A 392 page illustrated text covering all phases of the Graphic Arts, written in an easy-to-understand style. Contents include recent information on new processes, new techniques and new materials; step-by-step diagrams of mechanical processes; detailed press-work operations; copyfitting tables; type face specimens and suggested combinations; discussion of kinds of paper used in printing.

$5.25 per copy
Cash with order

PRINTING EQUIPMENT Engineer
1276 W. Third St. Cleveland 13, O.

wise idle machine time this way, and always have type on hand for any emergency."

Toward the end of his address, Mr. Hargrave said that "In the training of tape punchers, trainees should have a proficiency of at least 50 words per min. accuracy on a typewriter. Do not allow tight or loose lines even in practice. Another thing that helps speed up training is to start using the trainees' production in the paper almost immediately. No one tries as hard when they know their work is going to be thrown away. Insist on accuracy and good divisions and the speed will come."

Flint Reports

C. M. Flint, ANPA Research Director, New York, N. Y., said that since interest had been expressed by some publishers in Teletypesetter equipment which would provide for quadding left, right and center, and to permit changing from one magazine to another on two magazine machines, that such equipment was being looked into. The equipment is being readied so that it will be available when the demand arises. Mr. Flint also gave a resume of the research work which has been and is currently being conducted at the ANPA Research Laboratories in Easton, Pa.

Mailroom Operation at Chronicle

Donald V. Weber, Production Coordinator, Houston (Tex.) *Chronicle*, discussed operation in the mailroom. His address was interspersed with slides showing views of the various operations in the mailroom.

He stated that the mailing room is one of the mechanical departments but that there is very close cooperation between the mailing room staff and the city and country circulation departments. He said the *Chronicle* is an evening and Sunday publication. The evening circulation is just over 190,000, while the Sunday circulation is in excess of 207,000 copies. With the new high-speed rotary presses delivering papers in excess of 50,000 per hr., it became necessary to revamp the mailing room to handle this flow of papers with greatest dispatch.

"To produce the five daily editions, he explained, "two presses are used straight on Mondays and Tuesdays, and three presses collect on the other three days of the week. On Saturday one press straight on a single delivery is used. The four Sunday editions are produced on three presses collect.

"The circulation department has set up a system of independent contractors, dealers and agents for the sale and distribution of the *Chronicle*. A fleet of trucks is under a separate contract to deliver the papers in bulk to each of the contractors, dealers and agents."

Continuing, Mr. Weber said it was found that the fastest and most economical system for handling the papers in the mailing room is by means of key and blank bundles. This system calls for the total number of papers required for each individual contractor, dealer and agent to be broken down into unit size bundles with the odd number of papers as the key bundle. The unit, or blank bundle on the daily, consists of 50 papers.

The basic mechanical unit for handling papers in the mailing room is made up of five components. These are a Cutler-Hammer paper conveyor delivery table, a Jampol multiple-roller conveyor table, a Signode-Parker wire tying machine, a Jampol belt conveyor from the wire tying machine to the loading dock, and a Jampol belt conveyor on the loading dock. At the *Chronicle* three of these mechanical flow units are set up, one for each press at maximum production periods.

There is a two-man team for handling the Cutler-Hammer conveyor delivery table. On collect runs, the No. 1 man puts down the bottom wrapper, takes 25 papers from the delivery table, places them on the wrapper and passes them on to the No. 2 man. The No. 2 man takes another 25 papers from the delivery table, places them on top of the first 25 and pushes them out on the Jampol multiple-roller conveyor table.

On straight runs, each man puts down a bottom wrapper, takes 50 papers from the conveyor table, places them on the wrapper and pushes them onto the multiple-roller conveyor table.

As the bundle of papers travel down the multiple-roller conveyor table, a two-man key bundle team takes off or adds the odd number of papers necessary to fill the key bundle order and applies first a white, then the kraft key bundle wrapper to the top of the bundle. The bundles continue on down the table to the Signode wire tying machine which is handled by a single operator. The operator takes each completed bundle from the conveyor table and pushes it into the machine for tying.

Mr. Weber explained that starting on Tuesday night, approx. 30 high school and college boys come in to slip the roto sections into the comic sections. This slipping is completed by Friday night and is done at the boys' convenience during the week.

"For the final two Sunday editions, explained Mr. Weber, "three collect presses are used with a force of 30 slippers, 12 packers and 6 conveyor men to handle the slipping of over 170,000 papers in five hours."

The Zinc Situation

So far as the foreseeable future is concerned, zinc supplies will be adequate for needs, said Fred A. Dirkes, President of Roller Plate Metal Co. He related that in 1952 he believed the zinc industry will produce over 1,000,000 T. of primary and secondary slab zinc. At the present time our industry requires between 6 and 7 thousand T. per year in the form of polished engravers plates, which is a small percentage of the total zinc production. The total amount of zinc consumed by the entire letterpress portion of the Graphic Arts industry amounts to only 600 to 750 T. a year.

He warned his listeners against long storage of zinc. The surface of any polished metal will deteriorate in storage. Moisture will etch and pit the polished

surface. In some plants, as new shipments of zinc come in, the cases are stacked in front of the old boxes. The result is that some old cases of zinc in the back of the stockroom rest there for months and months. He said his company had had complaints about the surface but found through the code mark on the back of the sheet that the zinc was produced in and shipped from the plant, in one case, seven years before.

Dirkes discussed the "youngster" in the engraving industry. He said that over 150 engraving plants in the United States and Canada are using some magnesium plates. Of 20 newspaper plants using it and which he knows about, 14 use magnesium exclusively. The balance use it for most of their line work because it saves them time and money.

Patents

For The GRAPHIC ARTS

Covering patents issued February 5, February 12, February 19 and February 26.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room Equipment

2,581,550. CASTING MECHANISM for type includes a mold disc having one display mold, an elevator movable into a lower casting and an upper, non-casting position, and a safety lock. A lug is located near the display mold and a plate is carried by the elevator, juxtaposed to the lug. The lug and plate are so related that when elevator and display mold are in proper alignment, the bottom edge of plate, when mold and elevator are locked, will ride on the upper surface of the lug, and when elevator and display mold are not aligned, the lower part of the plate will abut the upper part of lug. Upper part of lug is bevelled to provide a surface which slants upwardly in the direction of the mold disc and the upper part of plate is bevelled to provide a surface which slants downwardly in the direction of the elevator. Thus lower slanted edge of plate will ride over upper edge of lug when mold and elevator are brought into lock-up position while display mold and elevator are not aligned, to keep elevator in up position where it cannot release lock unless a filler piece is in place. Invented by Samuel J. Carnes, Camden, Ark. Unassigned. Application June 23, 1947. 1 Claim.

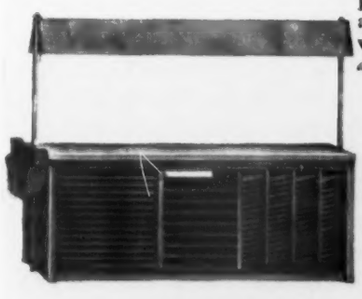
2,584,701. STRIP CASTING MACHINE for making printers' slugs, leads and rules includes a melting pot, a die connected at one end to pot and means

How good a day's work gets done by wash-up time?

This final scrub-up signs off another day in the composing room, and the question is *what's going down the drain besides dirty soap suds?* How many minutes and how many dollars were lost today because of inefficient, outmoded and inadequate equipment? How much *waiting* and how much *hunting* and how much *re-doing* ripped productive minutes out of every working hour?

With all operating costs at today's levels you don't need much of this kind of *slippage* to drive profits right out of the composing room. Doesn't that make this a mighty good time to start an equipment modernization program in your composing room? You bet it does, and no matter how modest a start you make, the important thing is to start *now.*

How? From coast to coast, plant operators have found the answer to that—*see your Hamilton representative.* Let him help you improve your layout . . . make better use of existing equipment . . . and set up the purchase of new units you need on a planned and orderly basis. Let him show you why we say *Hamilton equipment gives good men a chance to do good work!*



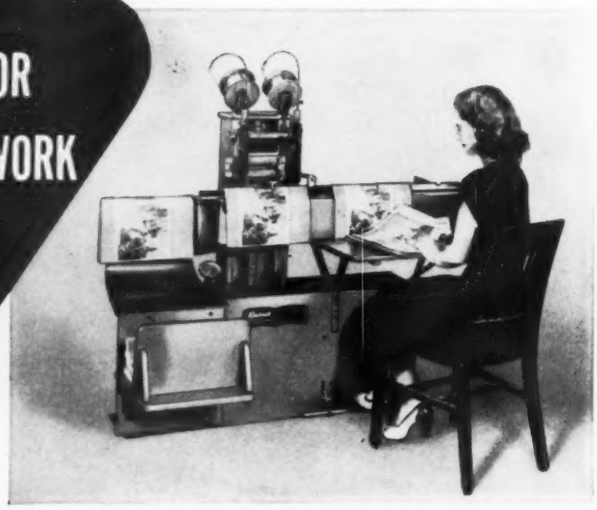
8-foot Make-up Table No. 2908C01

With a precision-cast-iron or sheet steel top 28" x 96", this Table has—(1) 13 numbered, 30" x 46" letterboards on roller bearings (2) 7 shelves and bin, 21¼" wide, open clear through (3) 4 banks of sloping shelves, open clear through, for 68 double-column galleys. Variable optional equipment available.

Hamilton PEAK-PRODUCTION equipment

HAMILTON MANUFACTURING COMPANY • TWO RIVERS, WISCONSIN

1 OPERATOR DOES THE WORK OF 2



with a

(Stagger the stitches if desired with an optional built-in accessory attachment.)

Rosback AUTO-STITCHER

A boon to the smaller plant
A profit maker in any shop

With a Rosback Auto-Stitcher you can now enjoy all the advantages of automatic stitching and do so at *a 50% saving in labor costs.* With this new stitcher one girl turns out the same work that formerly required two operators on an ordinary single-head stitcher, making the Rosback Auto-Stitcher a particular boon to the smaller plant, or a cost-saving teammate to a gang stitcher in the larger bindery.

Equipped with two standard quarter-inch stitcher heads (using wire from No. 25 to No. 30 round) the Rosback Auto-Stitcher saddle stitches folded sizes up to 10″ x 14″, any number of pages from two single 4-page sheets up to booklets 3/16″ in thickness (3/8″ folded).

One operator performs the entire operation—gathering the signatures and placing the collated books on the saddle. Booklets are automatically conveyed to the stitcher heads and one or two stitches, as required, are automatically placed. The stitched booklet is then automatically ejected into a stacker delivery. Stacker is adjustable to fit the size of work being stitched.

Other outstanding advantages include variable speed control that enables operator to run the machine at any desired speed that meets her experience; adjustable height of collating table to suit convenience of operator; foot-control treadle for stopping and starting at any moment of the stitching cycle; and an accessory attachment built into the machine at small extra cost, for staggering the stitches.

The Rosback Auto-Stitcher is one of the most popular machines we have ever introduced. The equipment soon pays for itself in labor saving and goes on earning profits for years to come. If you are looking for a way to make more money for a small investment ask your Rosback dealer for full details of this stitcher; or, write us for a complete, descriptive bulletin.

F. P. ROSBACK COMPANY • Benton Harbor, Mich.

WORLD'S LARGEST MANUFACTURERS OF PERFORATORS, GANG STITCHERS AND PAPER PUNCHING MACHINES

for cooling the die to solidify the metal and a holding and pulling mechanism for the strip casting metal. The latter mechanism comprises a pair of endless chains having foot pieces and sprockets for supporting the chains. The sprocket for one chain rotates about an axis with respect to the melting pot. The other sprocket is movable into and out of gripping engagement with the strip of solidified metal. Drive gears are connected with chains for intermittently moving the chains in a direction to draw the solidified metal strip from the die. Invented by Harry L. Horn, Dallas, Tex. Unassigned. Application September 7, 1948. 7 Claims.

2,585,188. PHOTOGRAPHIC COMPOSING MACHINE includes means for centering and illuminating printing characters as they are projected onto a sheet or film. It may be used with appropriate optical and sensitive paper supports and advancing mechanisms as an attachment to Monotype casting machines. It is in the form of a matrix plate having a top and bottom side, an array of openings extending through the body from the top to the bottom. Each opening wall is doubly frusto-conical to form a constricted central portion. A recess in the bottom side of plate body is associated with each opening and circumscribes same. A character plate is fitted into recess. Such character plate includes a light modifier forming a character to be reproduced and a retainer for the plate. Invented by Ralph J. Taylor, sr., Salen, O. Unassigned. Application March 10, 1949. 3 Claims.

2,586,776. A MATRIX STICK LOCK FOR TYPE CASTING MACHINES includes a plunger housing, a resiliently mounted plunger within the plunger housing and a supporting element for the stick lock. An interlocking engagement is effected between the lock stick and its supporting element. The plunger of the stick lock resiliently engages the matrix stick of the casting machine and holds the same against casual horizontal movement during the normal casting operations. Invented by William M. Berrick, Baltimore, Md. Unassigned. Application May 24, 1948. 3 Claims.

2,587,084. A PHOTOCOMPOSING MACHINE PRINTING FRAME comprises a baseboard, an aperture in the baseboard and a trough below the aperture. Also included are a negative holder carriage which is slidably mounted within the trough and a printing frame cover having a sheet of transparent flexible material for covering the baseboard and the aperture. A negative holder is secured to the carriage and positioned between the baseboard and transparent sheet. The air pressure within the trough and between the transparent sheet and baseboard is reduced. Invented by Paul Anderson, San Antonio, Tex. Unassigned. Application March 21, 1951. 6 Claims.

Miscellaneous

2,584,167. FLUID-DISPENSING APPARATUS for dispensing printer's ink from a container by suction is disclosed. The apparatus includes a base having an upper coaxial container-receiving portion for receiving a cylindrical container and operatively supporting it. A suction-receiving socket on the side of

the base is adapted to receive and engage the inlet end of the reservoir-barrel of a grease-gun. A conduit communicates with the inlet opening and the socket. The bottom of the container is dished and tensioned when the bottom of the container and sealing ring are pressed into sealing contact with each other by an interlock. Invented by Edwin R. Sundholm, Albert City, Iowa. Assigned to Our Savior's Evangelical Lutheran Church, Albert City, Ia. Application February 14, 1946. 20 Claims.

Plate Making

2,584,317. METHOD OF PRODUCING BIMETALLIC PRINTING FORMS for planographic processes comprises depositing galvanically a thin continuous layer of copper onto a base of stainless steel. An image forming coating is applied to this galvanically deposited layer covering the parts of the layer which are to be removed. A thin layer of iron is galvanically deposited on uncovered parts of the copper layer. The image forming coating is then removed and the uncovered copper down to the base layer is removed by means of chromic acid. The iron layer is removed by dilute sulphuric acid. Invented by Claes B. Aller, Copenhagen, Denmark. Unassigned. Application December 29, 1947; in Denmark September 9, 1946. 2 Claims.

2,585,864. PRINTING PLATE ETCHING is carried out by preparing a printing plate of the group consisting of chromium, chromium alloys and nickel which is etched with a solution containing platinum as a catalyst. Such etching solution may be a halide such as an alkaline earth halide. Invented by Karl Sollner, Chevy Chase, Md. Assigned to Harris-Seybold Co., Cleveland, O. Application October 7, 1949. 10 Claims.

Printing Presses and Equipment

2,584,266. DOUBLE ROLLING ATTACHMENT FOR PRINTING PRESSES. This apparatus is used in a pneumatically fed printing press which has at least one pneumatic conduit leading from a source of pneumatic pressure to a sheet feeder of the press and also has a constantly rotating valve disposed in the conduit for communicating the feeder with the source. The apparatus which automatically effects double rolling comprises a collar rotatably mounted on the conduit. Disengageable driving connections are located between the valve and the collar. The collar and conduit have openings arranged to align upon the intermittent collar rotation to vent the pneumatic pressure and eliminate one of the sheet feedings. Invented by David S. Harnly, jr., Scottdale, Pa. Unassigned. Application June 14, 1949. 8 Claims.

2,584,380. WATER CONTROL ROLLER FOR OFFSET PRESSES comprices a pair of block members, a shaft passing through both block members and thumb-type set screws for preventing rotation of the members on the shaft. An arm extends forwardly from each block member with a leaf spring between the arm and block member. A cylindrical loop is integrally formed in the extremity of each spring and a spring-adjusting screw urges the springs away from their adjacent arms. Invented by Raymond C. Delaplane, Denver, Colo. Unassigned. Application June 30, 1949. 4 Claims.

2,585,325. INKING ROLLER REMOVAL TRUCK FOR NEWSPAPER PRINTING PRESSES. Apparatus is disclosed for handling inking rollers of an arch type printing press having spaced sets of shaft suspended rollers mounted at each side of the press. The apparatus comprises a truck frame with a narrow elongated portion for passage between the spaced sets of rollers and a bracket at each end of said portion. Each bracket includes a base attached to the frame. A vertical post is removably carried and a pair of wheels on a fixed axis support the frame at the front. Guide rails of channel iron are fixed between the spaced roller sets. Invented by Arnold L. Imshaug, West Springfield, Mass. Assigned to Alico, Inc., West Springfield, Mass. Application Dec. 21, 1948. 4 Claims.

2,585,585. PRINTING PRESS DRIVE. A printing press of the bed and cylinder type comprises a frame, a bed mounted on the frame for reciprocation in a plane, a power driven shaft, and mechanism connecting the shaft and bed so that the bed is reciprocated in a non-uniform manner as the shaft revolves. The mechanism includes spaced mutually facing fixed cams, guide means intermediate the cams for supporting a slide for reciprocatory movement and two radially slotted gears supported for rotation about a common axis. Invented by William M. Pollock,

EASTERN

These EASTERN products are doing a real job for many newspapers... try them in your plant!

- FLECTRO GUMMED BACKING FELT (Individually packed 5 sheets per bundle)
- BACK UP BOARD .015 FOR 18 GAUGE ZINC
- DEEPMOLD BLANKETS
- NEOPRENE BLANKETS 1/8", 3/16", 1/4"
- PLASTIC MOLDING BLANKETS
- TRU-MOLD CORK MOLDING BLANKETS
- DOUBLE COATED CUT MOUNTING TAPE 1/4", 1/2", 1", 2"
- EASTERN CIRCULAR SAWS AND JIG SAW BLADES
- DIRECT PRESSURE MOLDING MATERIALS
- MATRIX DRYING MACHINES
- MATRIX SCORCHERS... MATRIX TRIMMING KNIVES
- ASBESTOS COVERS FOR ALL SCORCHERS
- CURVED AND FLAT CASTING BOARD
- COMPOSING ROOM AND STEREOTYPE EQUIPMENT

Representatives for:

STA-HI CORPORATION • H. B. ROUSE COMPANY • CHALLENGE MACHINERY COMPANY • AMERICAN STEEL CHASE COMPANY • WESEL MANUFACTURING COMPANY • THE MORRISON COMPANY

EASTERN FOR ECONOMY

EASTERN NEWSPAPER SUPPLY, INC.

9603 Northern Boulevard • Corona, L. I., N. Y.

Short Hills, N. J. Assigned to American Type Founders, Inc., Elizabeth, N. J. Application July 20, 1948. 7 Claims.

2,585,598. PRINTING PRESS INK FOUNTAIN comprises a housing for holding a body of ink and having upstanding end walls. An overshot fountain roller is mounted within the housing in partially submerged relation with the body of ink. A fountain roller shaft is included. Annular bearings in the housing end walls support the shaft and roller for rotation about a fixed axis. The bearings are disposed in open communication with the ink but are sealed against communication with the exterior of the housing. Invented by Auburn Taylor, Charleston, W. Va. Assigned to the Goss Printing Press Co., Chicago, Ill. Original application July 11, 1945 divided and this application November 20, 1947. 3 Claims.

2,585,617. A ROTARY INTAGLIO PRINTING MACHINE comprises a printing cylinder, a part-cylindrical printing surface carried thereby and a support having an arcuately curved surface extending lengthwise of the cylinder. The support is arranged for rocking movement about a fixed axis coincidental with the axis of arcuate curvature of the surface and parallel with the axis of the cylinder. A wiper cloth is trained over the curved surface of the support. The support rocks about the fixed axis first in one direction while the printing surface is passing the support and then in the opposite direction when the printing surface has passed the support. The support is reciprocated in a direction parallel with its axis of rocking movement. Invented by Alfred Battey, Reigate, England. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application March 28, 1947; in Great Britain April 5, 1946. 9 Claims.

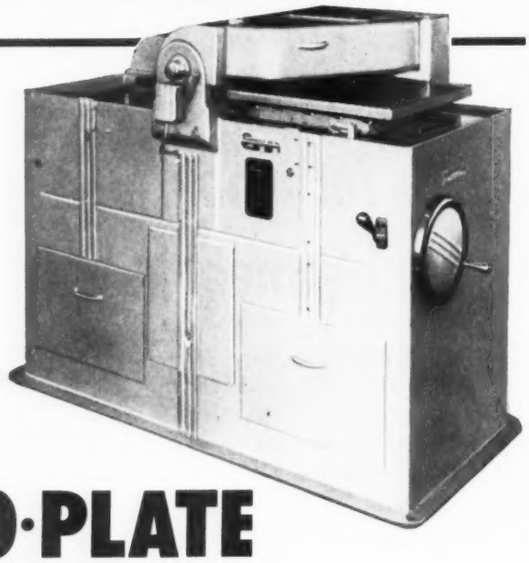
2,585,991. A SHEET MARKER for use in a printing form of a printing press has a guide for one edge of a sheet being printed on the form. The marker comprises a marker bar having marker means and a mounting for the bar locked in the form and supporting the bar at the edge of the sheet. The bar is pivotally and slidably supported on the mounting to position the marking means for printing at a predetermined distance from the edge of the sheet when the sheet and edge guide are in proper relation during printing. Invented by John Balmer, St. Louis, Mo. Unassigned. Application August 24, 1949. 3 Claims.

2,586,047. ELECTRONOGRAPHIC PRINTING APPARATUS includes a rotatable cylindrical printing member and a stationary discharge member located within the printing member and adapted to be connected to one pole of a source of high potential electrical energy. A stationary attraction member is located exteriorly of the printing member and is adapted to be connected to the other pole of the source of energy. The printing member possesses an interior ink container in communication with the pores of the image portions. A web of print receiving material receives the ink and the printed image is reproduced. Invented by William C. Huebner, New York, N. Y. Unassigned. Application August 13, 1947. 7 Claims.

2,586,382. FOUNTAIN INTERRUPTER in inking apparatus for printing apparatus operating through a roller-and-blade duct is disclosed. The interrupter comprises a ductor roller made up of at least two portions, at least one of which is loosely mounted on a roller axle. An arresting device is arranged at the end of the roller axle and supports the loose roller portion. The arresting device comprises a stationary tubular neck coaxially surrounding the end of the roller axle, a collar rotatably fixed to the axle, a ring which may be clamped either to the collar or the neck, and coupling means fixed to the loose roller portion. Invented by Max Ras, Zurich, Switzerland. Unassigned. Application December 8, 1949; in Switzerland December 13, 1948. 2 Claims.

2,586,480. WATER ATOMIZER FOR DAMPING THE CYLINDERS IN OFFSET PRINTING MACHINES comprises in combination an elongated box having a longitudinal slot in front of the cylinder with its longitudinal axis at right angles to the longitudinal axis of the box and parallel to the axis of the cylinder. Air current producing means include a distributing pipe and control means for regulating the pressure of the air current. A perforated screen is disposed in the box for uniformly distributing the air current entering the box across the entire length of the slot. A baffle located in the box atomizes water and pipe means possess nozzles for discharging water against the baffle. Invented by Max Ras, Zurich, Switzerland. Unassigned. Applica-

Saving ON SHAVING!



Dollar for dollar the new Model D Plane-O-Plate Rotary Shaver is the best value on the market today.

New

PLANE·O·PLATE

ROTARY SHAVER

THE NEW Monomelt Plane-O-Plate is a precision, high speed rotary shaver for metal, wood and plastic. Its amazingly low cost and high work output makes it ideal for newspapers, photo-engravers, stereotypers and plastic plate makers.

The new Plane-O-Plate is rugged and dependable. Cutter head is molybdenum steel mounted in Timken bearings. The body is made of stress-relieved welded steel, heavily reinforced. Substantial cuts are made without vibration or chatter. The Plane-O-Plate will shave a full page plate, a single small plate or a bed full of small plates at one time. Shaving capacity is from .150″ to 1″ . . . to .055″ with auxiliary plate, available at a small extra charge. Safety features protect operator, plates and machine.

Plane-O-Plates are still available. See your dealer, or wire, write or phone for folder of complete information.

THE MONOMELT CO., Inc.

1611 N. E. POLK ST. • MINNEAPOLIS 13, MINN.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

tion October 14, 1948; in Switzerland October 17, 1947. 1 Claim.

2,586,975. ECCENTRIC ADJUSTMENT FOR ROLL DRIVES of printing presses provides for positioning impression rolls and back-up rolls so that they may be moved to and from their operating position quickly and surely. The mechanism comprises a rotatable element and journal shaft, a journal bearing for the shaft, an eccentric sleeve within which the bearing is mounted, a support in which the sleeve is journaled, drive mechanism secured to the sleeve, and means to drive the rotatable element from the drive mechanism. Means acting between the support and the eccentric sleeve turn the sleeve in its journal in the support. Invented by William Messinger, Philadelphia, Pa. Unassigned. Application November 6, 1950. 10 Claims.

2,587,439. MAKING READY CYLINDRICAL PRINTING PLATE. The process of making-ready an arcuate printing plate for rotary printing comprises forming an overlay of the same size as the original for the plate. The design of the plate is printed on the underlay sheet while the impression is progressively shortened with respect to the direction of curvature of the plate. An underlay is prepared from the sheet in accordance with the shortened impression. The overlay in register is positioned on the face of the curved plate and the underlay is placed on the concave face of the plate. Both are subjected to deforming pressure and the concave back of plate is finished to render it cylindrical. Invented by George W. Bungay, New York, N. Y. Assigned to Electrographic Corporation, New York, N. Y. Application January 5, 1950. 4 Claims.

EXECUTIVE Qs

Last month, J. Edgar Lee, President of the Challenge Machinery Co., rounded out 70 years of active participation in the printing industry. Now 86 years old, Mr. Lee says he has no retirement plans. He attributes his vitality to "activity, the Lord's blessing, good luck and good care." Challenge's president started his career in the Chicago printing firm of Shniedewend & Lee in March, 1882. He advanced rapidly to the position of timekeeper and cost accountant in the machine shop, to order and shipping clerk and salesman. At the age of 18 he was named secretary of the company. During the financial depression of 1893 the company failed in business, but the same year the Challenge Machinery Co. was incorporated and took up the business of the old company. Lee was elected treasurer and general manager of the organization and became president after his father's death in 1917.

Election of Allen Latham, jr., as Vice President of Arthur D. Little, Inc., consulting research and engineering firm of Cambridge, Mass., was announced at the annual meeting of stockholders and directors. Latham will continue as technical director of the Mechanical Div., in addition to responsibility of its overall operation. At the same time, Leroy F. Marek was named to the Board of Directors and will have charge of technical operations of the company.

A. E. Horn, President of the A. C. Horn Co., Div. of Sun Chemical Corp., has announced the appointment of W. V. Keegan as Vice Pres. in Charge of Production of all Horn plants manufacturing paint, varnish and enamel. Keegan, a graduate of Fordham and Rutgers University, has been associated with Sun Chemical since 1941 and became a member of the Horn Division in 1948.

Why do I Like Imperial ?

We're old friends because Imperial makes my job easier. For close register color work, pre-stretch Register-Redibak does away with objectionable plate-stretch--- saves makeovers!
Imperial
REGISTER
REDIBAK
ZINC

With Imperial Zinc you no longer need worry about making different color plates from the same sheet. Register-Redibak is prestretched in the making.

Imperial Zinc

A Product of

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS Exclusively

PHILADELPHIA 4 • NEW YORK 7 • CHICAGO 50

In Canada: LATIMER, LIMITED, TORONTO 2B

Leonard O. (Curly) Wakefield, Mechanical Supt. of Akron (O.) *Beacon Journal*, died on March 19 in his sleep from a heart attack at his home, 27 S. Union St., Akron. Mr. Wakefield would have been 57 on April 26. He joined the *Beacon Journal* as head of all mechanical departments the latter part of 1948. Prior to that he had served 25 years on the Chicago *Daily News*. In his years on the Chicago paper, Mr. Wakefield had acquired a national reputation in the printing trades and his experiments resulted in several new techniques. A native of Heyworth, Ill., he worked while still attending high school in nearby Bloomington, Ill., on two newspapers, the *Bulletin* and the *Pantagraph*. He started his career with the Chicago *Daily News* as assistant superintendent of the stereotyping department, and in 1932 became superintendent of that department. In 1933, he was made assistant mechanical superintendent. He continued in that capacity until 1941 when he became mechanical superintendent, although still a *Daily News* employee, of the Chicago *Sun*. He also worked for newspapers in Dallas, Tex., San Diego, Calif., and Denver, Colo. Along with his skills in camera work, Mr. Wakefield combined a knowledge of stage settings and props gained during brief stays with traveling theatrical companies. He is survived by his wife, Eleanor, two daughters and a son.

Edwin H. Evers, Production Mgr. of the St. Louis (Mo.) *Globe-Democrat*, was elected a Vice President at a recent meeting of the Board of Directors. Evers has been associated with the *Globe-Democrat* more than 30 years. He started as a galley boy in the composing room and moved

EDWIN H. EVERS

up through the ranks as makeup foreman, composing room foreman and mechanical superintendent. He has been production manager since 1932. He has been a member of the American Newspaper Publishers Assoc.'s mechanical committee for the past ten years, and served for three years as chairman. Four years ago, he participated in pioneering industrial relations session at the annual ANPA Mechanical Conference which has since occupied a full day on the Association's program. Evers has addressed newspaper mechanical conferences throughout the country on the subject of human relations with a view to improving understanding between employer and employee and working toward a better future for the newspapers through the combined efforts of both. It was announced that the new vice president will retain his present position as production manager.

Millard C. Pintard has been appointed Exec. Vice Pres. and elected to the Board of Directors of the Wm. C. Herrick Ink Co., Inc. Pintard joined the company in 1939 as sales representative for Pennsylvania and in June 1951 was appointed general sales manager. He is a graduate of Wyoming Seminary, Kingston, Pa., and now makes his home in Ramsey, N. J.

UNEXCELLED IN GAUGE ACCURACY

and built to take it!

Developed for matrix work and long runs.

Edes Hard Matrix Zinc is harder and tougher than ordinary zinc. Yet Edes Hard Matrix possesses the same amazing gauge accuracy and fine etching qualities of Edes Regular Zinc.

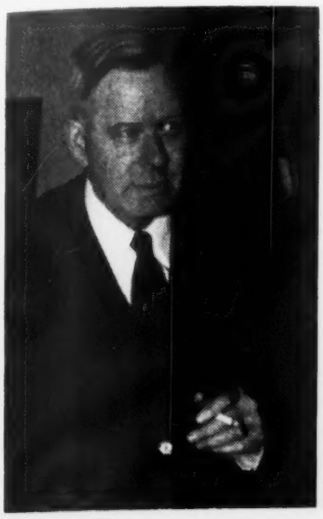
Edes

The World's Finest Photoengraving Metals

THE EDES MANUFACTURING COMPANY, Plymouth, Mass., U. S. A.

ZINC · COPPER · HARD MATRIX ZINC · TRIPLEMETAL

Walter W. Morey, inventor of automatic line-composing machine operation and composition, passed away at his home in Los Angeles on March 9. He was 70 years of age. His invention (genesis in the 1920s) takes its place among the more important technological developments in the past 50 years. He lived to



WALTER W. MOREY

see *Time's* editorial copy transmitted to printing plants in Philadelphia, Chicago and Los Angeles from New York. Also, many daily newspapers in the United States are now composing type automatically from tape punched by impulses received from trunk line circuits emanating from central distributing points. His invention of the Teletypesetter is having a profound effect particularly upon composition for daily newspapers. Several years ago, Mr. Morey retired from the Board of Directors of Teletypesetter Corporation to take up residence in the West. He had been continuously in touch with further development of the mechanism and installation of new equipment in the West. His first business venture was as a newsboy for a Dover (Del.) newspaper. At one time he was associated with Columbia School of Journalism Press, New York. His analytical mind was at work constantly until his passing which occurred while asleep in a chair.

Hubert S. Bowles, President of the Sheldon Printing Corp., Chicago, was elected president of the Graphic Arts Assoc. of Illinois, Inc., at the recently held annual meeting in Chicago. He succeeds Paul C. Clovis, President, Twentieth Century Press, Inc. Other officers elected are: First Vice Pres., Carl Gorr, Carl Gorr Printing Co.; Second Vice Pres., John W. Bornhoeft, jr., President Columbia Printing Co.; Third Vice Pres., W. I. Reeves, The Kelmscott Corp., Aurora, Ill.; Treasurer, W. H. King, Treasurer, Stationery Mfg. Co., Chicago. S. F. Beatty is Secretary and General Mgr. in charge of headquarters at 105 W. Monroe St., Chicago. New directors elected include: F. W. Henkel, The Wallace Press, Inc.; Arthur A. Kraft, Kraft's Printing Co.; Gordon Lane, General Printing Co.; Forrest E. Otcheck, President, The Royal Printing Co., Quincy, Ill.; Wm. H. Sleepeck, jr., Sleepeck-Helman Printing Co., Chicago; A. L. Weber, Webb-Linn Printing Co.

Stanley Impressions, Inc., New York, has announced the election of the following officers: Richard P. Stanley, President; Mrs. S. P. Stanley, Treasurer; Floyd Heckendorn, Vice Pres.; and Norman Snedden, Secretary.

James D. Volts has been appointed Vice Pres. of Murray & Gee, Inc., printers and publishers of Culver City, Calif. Volts has been associated with the firm for 2½ years as sales manager and director of public relations and publicity. Prior to coming with Murray & Gee, Inc., he was with Gore Bros. Engraving Co. He has served in executive capacities with

EXCELLENT REPRODUCTIONS...

To assure line or halftone reproductions that look alive ... that are faithful in every sharp or subtle detail ... leading stereotypers use BURGESS MATS exclusively.

The *uniform shrinkage* of Burgess Mats ... their *greater plasticity* ... their *smoother faces*—these advantages pave the way for finer reproduction. And these advantages are guaranteed by Burgess' unique set-up for precise laboratory testing during each step of volume mat-making.

BURGESS CELLULOSE COMPANY

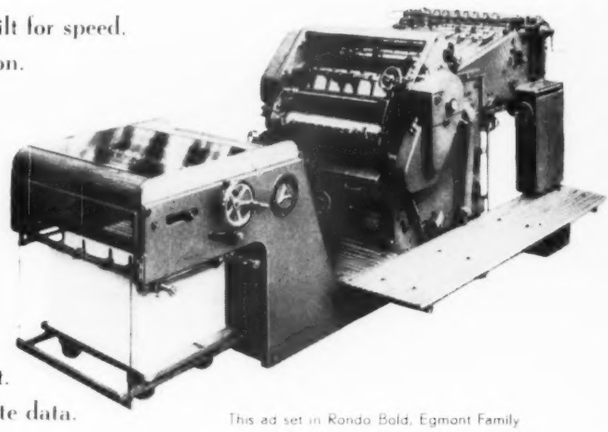
Manufacturers and Distributors
of Burgess Chrome and Tone-Tex Mats
FREEPORT, ILLINOIS

BURGESS Chrome MATS

answers the quality printer's demand for rich-toned reproduction

with Frankenthal Palatia Sheet-fed Gravure Presses

Superbly built for speed,
exactitude, unusual simplicity of operation.
Unequalled for single tone
and multicolor reproduction.
Both continuous surface sleeve and plate models.
Exclusive patented features,
as: pre-gripper-swinging-lay
for absolute register at all speeds;
test tray for checking sheets
while press is running.
Meticulous precision-craftsmanship throughout.
Write for complete data.



This ad set in Rondo Bold, Egmont Family

Amsterdam Continental
Types and Graphic Equipment Inc.

268-276 Fourth Avenue, New York 10, N. Y.

Announcing

Graphic Arts Employment Service

for key personnel

executive • supervisory • sales • technical

The *first* nationwide, confidential employment agency serving all branches of the Graphic Arts Industry.

LETTERPRESS	BINDERY
LITHOGRAPHY	PUBLICATIONS
INTAGLIO	COMMERCIAL
SILK SCREEN	BOOK MANUFACTURING
TYPOGRAPHY	SPECIALTIES
PHOTO-ENGRAVING	FOLDING CARTON
ELECTROTYPING	SET-UP BOX

MACHINERY · EQUIPMENT · INK · SUPPLIES

Positions Filled • Positions Secured

It is our function to bring together the right man and the right job. We can guide you whether you are looking for a key man for your organization or whether you are a qualified man looking for a position. We operate on a strictly confidential basis. *Write for complete information.*

graphic arts employment service

Suite 805, Transportation Building • 307 East Fourth Street • Cincinnati 2, Ohio

Licensed under the laws of the State of Ohio.

American Colortype Co., Chicago; Gunthorp-Warren Co., Chicago; Bowman Publishing Co., Evantson, Ill.; Repro Engraving Co., Cincinnati, O.; Thomas M. Royal Co., Philadelphia; Norman, Dom, O'Flaherty, New York.

James C. Lawless has been appointed Factory representative for the Chicago and Midwestern territories of the Printing Machinery Co. Lawless succeeds Harry E. Kincaid, who resigned for reasons of health which necessitated his moving to California. Lawless was formerly supervisor of sales for the Brandtjen & Kluge Co., with headquarters in San Francisco. His territory included northern California, Nevada, Oregon and Washington. He was a member of the San Francisco and Seattle Craftsmen's Clubs. He will make his headquarters at Printing Machinery Co.'s Chicago office at 20 E. Jackson Blvd.

John J. Hurley, 51, passed away at a hospital in Indianapolis, Ind., on Tuesday morning, March 4. Death was due to pneumonia and heart complications. He was a sales representative for J. Thomas McHugh Co., distributors of Goodyear printers' supplies, in Indianapolis. He was well known throughout the midwestern section of the country.

H. Douglas Hadden, former president and director of Dorland International, Inc., advertising and sales promotion concern, has joined the National Foremen's Institute as Asst. to the President. President of the 30 year old NFI is Arthur C. Croft.

NPA
Printing and Publishing Division

Wire Products and Printing Plates Orders Amended

Printers and publishers may now apply the allotment symbol MRO or the rating DO-MRO to their delivery orders for certain types of wire products regardless of accounting practices, NPA said recently.

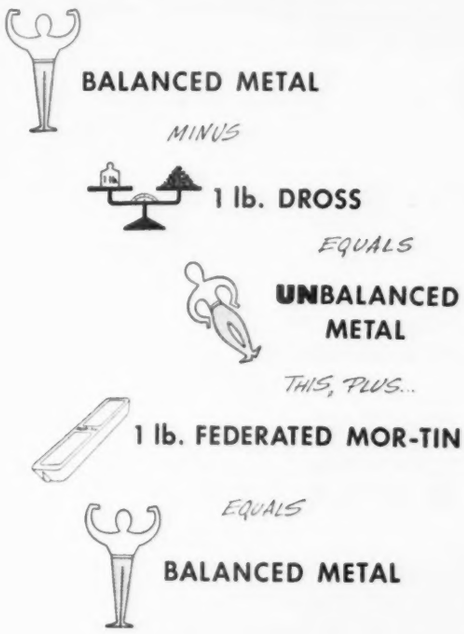
In an amendment to Dir. 1 to the Controlled Materials Plan Reg. No. 5, NPA has classified certain types of wire used in the printing and publishing industry as operating supplies regardless of how such wire products are carried on the users' books. In the amended direction rolled, forged and cast anodes continue to be classed as operating supplies to users in the printing and publishing industry, NPA said.

The action was taken because some users carried these types of wire as operating supplies and some do not. The amendment eliminates the inequality, NPA explained. NPA said that a further provision of the amendment says that purchases made under the direction need not be charged to purchaser's MRO under Reg. No. 5 if the purchaser did not include the type of material so purchased in computing his MRO quota.

At the same time, NPA announced an amendment to CMP Reg. No. 5 which adds printing plates to Schedule 1 of the regulation. This action makes it impossible to apply the DO-MRO priority rating to obtain printing plates, NPA said. The change was made because since printing plates were classified as operating supplies to their owners, a situation arose where all such orders for plates could carry the rating and the priority became ineffective. NPA emphasized that the availability of metal for printing plates will not be affected by the action.

Steel Strapping M-59, Revoked

Revocation of M-59, the basic order controlling the use and inventory of metal strapping, was announced today by Robert de S. Couch, Director, Containers and Packaging Div., NPA, Department of Commerce. M-59 was issued May 1, 1951, to conserve steel by preventing unnecessary use of strapping on light packages. The order listed 14



THE FEDERATED MOR-TIN® PLAN

is a simple and proved way to keep all type metal supplies balanced. It requires no large cash outlay because the money Federated gives you for your dross pays a good part of the cost. It works with all metals: Stereotype, Linotype or Intertype, Monotype or Ludlow. Here's how the MOR-TIN plan works . . .

You send Federated your dross and we will supply you MOR-TIN Metals on a pound-for-pound exchange basis. These metals, when added in direct proportion to the weight of the dross removed, will maintain the analysis and working standard of your supply. You pay Federated only the difference between your dross allowance and the cost of the MOR-TIN . . . and that isn't much to assure smooth casting operations! Federated will make periodic laboratory analyses and will supply you dross drums free.

If you would like more details, just ask your Federated salesman next time he calls or write Federated's Type Metal Dept.

Would you care to have information on Federated SAVALOY, a new stick-type flux . . . or on SAVEMET, the dry powder flux? If so, just ask and we'll send a pamphlet.

Federated Metals Division

AMERICAN SMELTING AND REFINING COMPANY • 120 BROADWAY, NEW YORK 5, N. Y.

acceptable uses for strapping and limited inventories to a 45-day supply. "Indications are that there are ample supplies of steel strapping to meet all immediate and foreseeable requirements," Couch said. Steel strapping will remain subject to the inventory limitations of NPA Reg. 1.

Lead Restrictions Removed

NPA Order M-38 was recently amended by the National Production Authority to remove all restrictions on the use of lead. Consumers are now permitted to carry a 60 day lead inventory instead of the 30 day supply previously permitted. NPA said that the primary purpose of the action was to enable the civilian economy to benefit directly from the improved lead supply situation, and that the action was in line with NPA's policy to relax or eliminate controls as soon as circumstances permit. Present indications are that the supply of lead will be adequate to meet all defense requirements and fill all normal needs of the civilian economy.

Printing Div. Consultant

William H. Walters, President of the U. S. Printing & Lithographing Co., Cincinnati, O., has been appointed a consultant to the Commercial Printing and Lithographing Branch of the Printing and Publishing Div., National Production Authority. Until his appointment, Walters had been a member of the NPA Commercial Printing and Lithographing Industry Advisory Committee and a member of the Task Committee on Procurement.

Newspaper Meeting

Approval of supplemental criteria, which will temporarily enable newsprint-starved newspapers in expanding defense areas to obtain additional tonnages of newsprint given up voluntarily by large publishers, was voted recently by the Newspaper Industry Advisory Committee. Besides agreeing to continue existing provisions for newsprint assistance, the Committee added two new criteria for which paper was expected to be available during the second and third quarters of 1952.

The Committee also endorsed the recommendation of NPA's Printing and Publishing Div. that supplemental tonnages of newsprint should be provided to publishers who are in perilous inventory positions. It was agreed that this newsprint would be provided only on a "one-shot" basis.

NPA officials commended the large publishers who have given up newsprint stock to save more than 800 weeklies from suspending publication last year. The weeklies are mostly in the Southwest, West and Pacific Northwest. NPA Printing and Publishing Div. is making a survey to determine if a reduction in the number of sheet sizes would make the sheeted newsprint business more attractive to the paper merchants and newsprint mills.

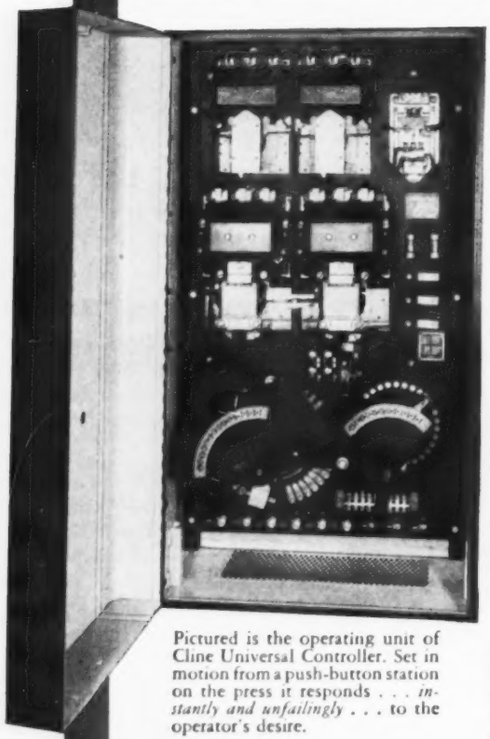
Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

Cline

Universal Controllers

FOR COMMERCIAL PRESSES OF EVERY TYPE AND SIZE

Designed for Rotary, Cylinder, Flat Bed and Carton Presses . . . as well as Paper Bag, Cloth Bag and Binder Machines; Folders and Gluers . . .



Pictured is the operating unit of Cline Universal Controller. Set in motion from a push-button station on the press it responds . . . *instantly and unfailingly* . . . to the operator's desire.

Cline Universal Controllers provide the operator with *instant, unfailing control* with a touch of his finger tip on the push-button station.

Cline Controllers are ideally suited for all presses requiring high starting torque, inching, and slow-down speed regulation in forward rotation as well as slow speed in reverse rotation.

Cline Electric Drives and Controls

Designing and building *everything electrical for the printing industry* for more than 40 years has made Cline outstanding in its field.

Let Cline Engineers with their specialized "know-how" solve your printing problems . . . ASK for copy of our Bulletin completely describing the new Universal Controller.

BOSS OF THE PRESS

Cline

ELECTRIC MANUFACTURING COMPANY
3405 WEST 47TH STREET, CHICAGO 32
San Francisco 8, California • New York 17, N. Y.

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Association – 1952 Convention to be held in Chicago, hotel and dates to be announced later. W. K. James, President; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1952 Conference, Fairmont Hotel, San Francisco, June 9, 10 and 11. Chairman of the Committee, L. J. Griner, Production Manager, Detroit *News;* Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference—1952 Conference, Hotel Statler, Detroit, tentative dates June 20 and 21. President, Robert Knox, Michigan Typesetting Co., 457 W. Fort St., Detroit, Mich.; Secretary-Treasurer, Robert Wolf, Richardson-

Now... more than ever it pays to go Blatchford!

With costs shooting upward, you don't want to overlook any item on which you might save money.

Take your metal stock, for example. If its operation is costing you too much, now's the time to switch to Blatchford Metal.

With Blatchford you get a clean, solid cast. That's because Blatchford Type Metal melts smoothly, flows freely, molds sharply.

With Blatchford you get type, slugs, and plates that are true to the mold. Blatchford has the fluidity to "get" all detail in the mat or matrix.

With Blatchford you get long, steady press runs. Blatchford Metal has the strength and toughness to stand up under rugged treatment.

What does this add up to... and mean to you?

It adds up to fewer imperfect casts, fewer machine and press stoppages. It means your staff and costly equipment can operate to capacity.

It means, with Blatchford on the job, you get maximum production at lowest cost. Buy Blatchford and get top metal performance.

➧ **Free chart for re-melt rooms** tells, step by step, how to keep metal "healthy" and *cut dross loss* with Blatchford Type Metal Flux. Just write, Box PE-4, the office nearest you for "Re-melt Chart."

NATIONAL LEAD COMPANY—Atlanta, Baltimore, Chicago, Cincinnati, Cleveland, Dallas, Philadelphia, Pittsburgh, St. Louis; New York: E. W. Blatchford Co.; New England: National Lead Co. of Mass., Boston; Pacific Coast: Morris P. Kirk & Son, Inc., Los Angeles.

Blatchford

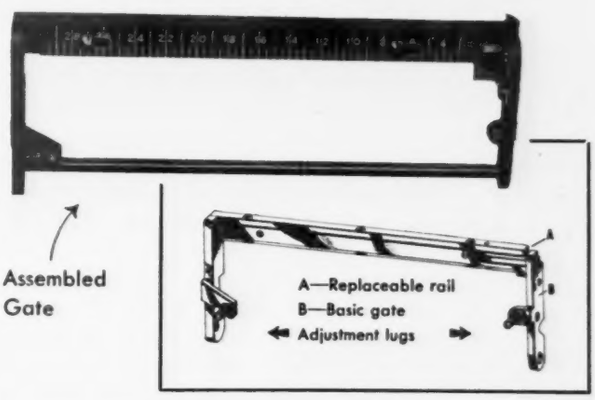
is the NATIONAL name for dependable metal...

• Reg. U. S. Pat. Off.

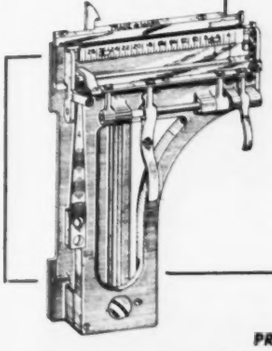
STAR FIRSTS..

that save time and trouble for machinist and operator, is exemplified in the three improvements on the Everlasting Adjustable

ASSEMBLING ELEVATOR GATE
for Linotype and Intertype Machines



1. **REPLACEABLE TOP RAIL** Later machines of both Linotype and Intertype have Assembling Elevator pawls covered on both Gate and Back Rail. STAR was **first** to make a **replaceable, hardened** rail for the Gate to make the basic gate permanent on the machine.
2. **ADJUSTABLE LUGS** Years ago, this means of adjusting the Gate in relationship to the back rail was **first** introduced by STAR.
3. **ONE PIECE** And last, but not least, the STAR Gate is all ONE PIECE—no welding or stamping—another exclusive STAR feature.



Detailed Circular Available

Showing ASSEMBLING ELEVATOR complete with the Adjustable Everlasting Gate. A matrix support rail on the back plate (not visible) is standard equipment on this unit.

PRECISION
TRADE ★ MARK

LINOTYPE PARTS COMPANY
INCORPORATED
Factory and Main Office
SOUTH HACKENSACK, N. J.
Branch Office: 1327 BROADWAY, KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER • NEW YORK • BOSTON

Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, O.

Gravure Technical Association—Secretary-Treasurer, J. E. Hazel, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conference—1953 Conference, Deshler-Wallick Hotel, Columbus, O., January 10-13. President, Harry A. Miller, Mechanical Supt., Dayton (O.) *Daily News;* Secretary-Treasurer, Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.* Co-chairmen, Manufacturers' and Suppliers' Committee, Ray Burgoon, Sales Representative, Mergenthaler Linotype Co., 192 Haldy Ave., Columbus 4, O.; Clarence Seaman, Vice President, Imperial Type Metal Co., 1276 W. Third St., Cleveland 13, 0.

Illinois Newspaper Mechanical Conference — 1952 Conference to be held in Alton, Ill., dates to be announced later. President, James B. Mawdsley, Composing Room Supt., Alton (Ill.) *Evening Telegraph;* Secretary-Treasurer, Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers—1952 Convention, Cosmopolitan Hotel, Denver, Colo., October 13, 14, 15 and 16. President, C. C. Barnes, Ft. Wayne Engraving Co., 118-120 W. Superior St., Ft. Wayne 1, Ind.; A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, O.

International Association of Printing House Craftsmen—1952 Convention, Jefferson Hotel, St. Louis, August 10, 11, 12 and 13. President, J. Homer Winkler, Battelle Memorial Institute, 505 King Ave., Columbus 1, O.; Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

International Graphic Arts Education Association—President, George J. Bilsey, East High School, Cleveland, O.; Educational Director, Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

International Typographic Composition Association—1952 Convention, Hotel Statler, St. Louis, Mo., October 9, 10 and 11. 1953 Convention, Mayflower Hotel, Washington, D. C., September 24, 25 and 26. President, John R. Connell, Connell Typesetting Co., 302 E. Eighth St., Kansas City 6, Mo.; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

ITCA Eastern District Conference—1952 Conference, Hotel New Yorker, New York, April 25 and 26.

Iowa Daily Newspaper Mechanical Conference — 1952 Conference, Blackhawk Hotel, Davenport, Ia., May 17, 18 and 19. President, Ross DeVine, Superintendent, Davenport (Ia.) *Times;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas Newspaper Mechanical Conference — 1952 Conference, Broadview Hotel, Wichita, Kan., September 13 and 14. President, W. A. Blackburn, Herington (Kan.) *Advertiser-Times;* Secretary-Treasurer, Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.

Lithographers National Association — 1952 Convention, Greenbrier Hotel, White Sulphur Springs, W. Va., June 10, 11 and 12. President, Ernest W. Jackson, The Steck Co., Austin, Tex.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conference — Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conference Director, Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburg, Pa.

Missouri Newspaper Mechanical Conference—1952 meeting to be held in Kansas City, Mo., hotel and dates to be announced later. President, Mike Creasy, Composing Room Supt., Columbia (Mo.) *Tribune;* Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index.*

National Association of Litho Clubs — 1952 Convention will be held in Philadelphia, hotel and dates to be announced later. President, Anthony Capello, 265 Rocklyn Rd., Upper Darby, Pa.; Secretary, Joseph H. Winterburg, Phillips & Jacobs Co., 620 Race St., Philadelphia, Pa.

National Association of Photo-Lithographers—Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 19, N. Y.

National Printing Equipment Association, Inc.—Place and time of 1952 annual meeting to be announced later. President, Fred S. Tipson, T. W. & C. B. Sheridan Co., 129 Lafayette St., New York 13, N. Y.; James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — President, Howard J. Mehigan, Stereo-

It sets more type in less time...

It's economical...

It's easy to operate...

It's Teletypesetter

The Teletypesetter Operating Unit shown here is the heart of automatic typesetting. When tape—prepared on the Teletypesetter Perforator Unit—is inserted, the composing machine goes to work producing type at the hourly rated speed of the composing machine, increasing production by as much as 50% to 100%.

TELETYPESETTER CORPORATION
1400 Wrightwood Ave., Chicago 14, Illinois

TELETYPESETTER

type Supt. Bridgeport (Conn.) *Herald;* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

Northwest Mechanical Conference — 1952 Conference, Hotel Duluth, Duluth, Minn., September 20, 21 and 22. President, John Breen, Mechanical Supt., Duluth (Minn.) *Herald* and *News-Tribune;* Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference—1952 Conference will be held in conjunction with ANPA Mechanical Conference at Fairmont Hotel, San Francisco, June 9, 10 and 11. President, Clyde Bowen, *Wall Street Journal,* San Francisco; Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News.*

Printing Industry of America—1952 Convention, Chase Hotel, St. Louis, October 13-16. President, Arthur A. Wetzel, Wetzel Brothers, 444 N. Broadway, Milwaukee 2, Wis.; James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — President, Frank F. Pfeiffer, Reynolds & Reynolds Co., 800 Germantown Ave., Dayton, O.; Official Headquarters, Bernard Taymans, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Association — 1952 Convention to be held in Chicago, dates and hotel to be announced later. President, John W. Key, Admiral Screen Print Corp., 627 W. Lake St., Chicago 6, Ill.

SNPA (Eastern Div.) Mechanical Conference — 1952 Conference, Andrew Jackson Hotel, Nashville, Tenn., August 25, 26, Chairman, W. D. (Red) Jacobs, Mobile (Ala.) *Press-Register;* Secretary, Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conference — Chairman, Ralph Moffett, Mechanical Supt., Dallas (Tex.) *Times-Herald;* Chairman of Supply Men's Committee, F. L. A. Gospach, Intertype Corporation.

Technical Assoc. of the Graphic Arts —1952 Meeting, Hotel Carter, Cleveland, May 5, 6 and 7. President, Paul W. Dorst, 3373 Morrison Ave., Cincinnati 20, Ohio; Secretary-Treasurer, Paul J. Hartsuch, Intl. Printing Ink Div. of Interchemical Corp., 161 W. Harrison St., Chicago 5.

BOOKS

Pressman's Ink Manual

THE *Pressman's Ink Manual*, by George M. Halpern, has been prepared as a pressroom reference guide when ordinary or special ink problems are encountered. To express the purpose of the book more clearly, Mr. Halpern possesses the knack of discussing ink use in language usually employed in the pressroom rather than the language used by the chemist. The book will also provide the beginner in presswork an understanding of ink and how to obrain results.

The section on ink problems, one of the most valued in the manual, deals with identification, causes and remedies for the most difficult types of problems the pressman is likely to encounter. Its completeness is apparent by a cross-section review of the problems covered. These include such difficulties as mottling, caking, picking, ink misting, bleeding, backing away from fountain, printing not sharp, lack of opacity, metallic ink not bright, and others, totaling 21 separate problems.

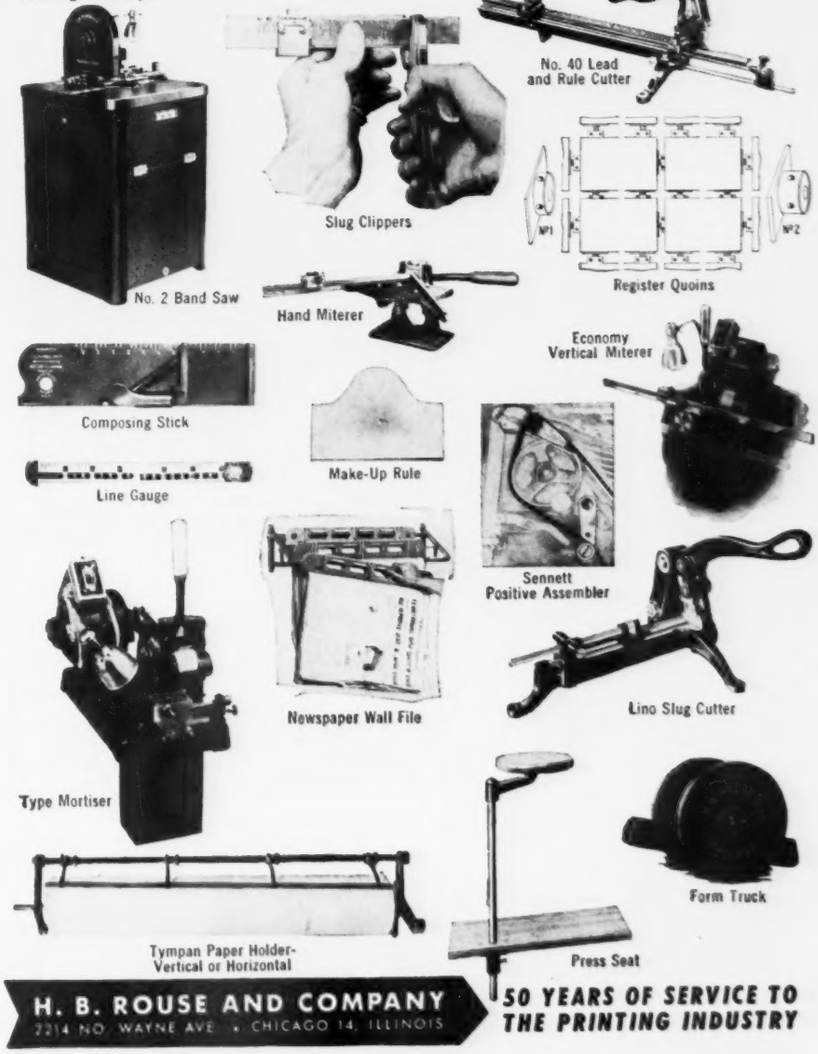
Other topics covered in *Pressman's Ink Manual* are the relationship of ink to stock, where and when to use special inks, latest developments in printing inks, how to prepare and use an ink log, procedure for process printing, estimating inks, determining proper screen to use, etc. Of use to the pressman who chooses to mix his own colored inks when only a small amount is desired, is a handy reference chart containing formulas for different colors. Perhaps the chapter, *Estimating Ink for a Job*, is the most valuable. It is the pressman's business to have such information at his command—and quickly.

Compounds, driers and vehicles comprise three other separate chapters in the

PRACTICALLY EVERY PRINTING PLANT IN THE WORLD USES ONE OR MORE OF THESE

Rouse PRODUCTS

For absolute accuracy and extra profits, order Rouse time-saving equipment. Write for complete illustrated catalog—today!



H. B. ROUSE AND COMPANY
2214 NO. WAYNE AVE. • CHICAGO 14, ILLINOIS

50 YEARS OF SERVICE TO THE PRINTING INDUSTRY

Imperial

BETTER METAL
BETTER PRINTING
Program

for Complete Satisfaction

1 **PERIODIC ANALYSES** plus detailed laboratory reports to help Imperial users maintain proper and uniform quality of their working metal supplies. (Originated by Imperial.)

2 **PERSONAL COUNSEL** and assistance from Imperial representatives who are type metal specialists and serve the graphic arts exclusively.

3 **PLUS METAL SERVICE.** Adjusting alloys of proper formula to restore the working metal supply to full casting efficiency. (Another Imperial "first".)

4 **DROSS DRUM SERVICE.** Shipping containers supplied without charge for convenient accumulation and exchange of customer's dross for equivalent weight of Plus Metal. (Again a "first" by Imperial.)

Whether you buy metal by pounds or by tons, the complete Imperial "Better Metal—Better Printing" Program contains something of interest for you. Ask the Imperial representative for all the details next time he calls.

Imperial
TYPE METAL COMPANY
SERVING THE GRAPHIC ARTS *Exclusively*
PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

book. Under these headings is such information as, making inks behave through the use of waxes, greases, and special oils and talcs; importance of using correct type of drier; and manufacture, classification and use of various vehicles.

Procedure and sequence of process printing for dry and wet printing, process inks and their use, importance of screen angles, basic principles involved in process printing, is among the information found in the chapter on process printing. A glossary of ink, paper and pressroom terms completes the text.

Both in the Preface and in the Bibliography, Halpern credits various authorities and previously published material as the source of some of the information used.

Pressman's Ink Manual—by George M. Halpern. Book consists of 182 pages; size, 5¼ in. by 8⅜ in.; black linen cover with gold stamping. May be ordered from *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, O. Price $6.25 per copy.

Forms New Craftsmen's Club—The East Bay (Calif.) Club of Printing House Craftsmen with headquarters in Oakland, Calif., was recently formed with 90 printers and supplymen signing the charter. Membership is composed of Craftsmen from the nearby bay cities of Alameda, Hayward, Emeryville, Berkeley, Richmond, Martinez and Pittsburgh. Shown here at the granting of the charter to the East Bay Club are, from left to right: A. R. Tommasini, Intl. Public Relations Chairman; Fred Brooks, Acting Secretary, and Harry A. Simms, Acting President, both of the new club. Address of Acting Secretary Brooks is 610 16th St., Oakland 12, Calif. The issuance of the East Bay charter increases to 90 the number of affiliated clubs in the International with a combined membership of close to 13,000.

Production in Advertising

FROM time to time, a book is prepared on the fundamentals of printing that is qualified to convey the message in simple, understandable language; and which contains the seldom found briefness while still being complete. David G. Hymes is the author who has accomplished this feat in the 392 page text *Production in Advertising*. It is a book in which Author Hymes has contributed invaluably in presenting an understanding of the complex operations involved in printing production for the experienced craftsman, beginner and layman.

The book is intended to serve as a liaison between the Graphic Arts and the advertising profession. It will be looked upon by many production and mechanical executives as a reference source to areas of printing production in which they have sketchy and incomplete knowledge. Because in Hymes' book, is explained and illustrated concisely each tool of production, how it is used, why it is used, when it is used, and where it is used.

Perhaps the most noticeable feature of the book, and by far direct reasons for its success, are the easy-to-grasp, step-by-step diagrams found in each section. These accompany the explanations of the different procedures and processes used in the Graphic Arts to enable the reader to visually grasp what the author has expressed in words.

Divided into ten parts, *Production in Advertising* contains information on adver-

CUSHMAN OFFSET MOTOR

Backed by a record of Dependable Service!

With the installation of a new CUSHMAN OFFSET MOTOR on your Linotype or Intertype machine you will see why a CUSHMAN installation is a WISE INSTALLATION. Lower in cost . . . Complete with Gear Wheel.

WRITE FOR FURTHER INFORMATION

CUSHMAN ELECTRIC CO., INC.

ASSOCIATED WITH

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

Factory and Main Office

SOUTH HACKENSACK, N. J.

Branch Offices: 1327 BROADWAY, KANSAS CITY 6, MO.

CHICAGO · MINNEAPOLIS · DENVER · NEW YORK · BOSTON

Don't Strain the LOYALTY of Constant Readers

Some men will wait around a news-stand for a late paper to be delivered, because of affection for that paper . . . more men will buy the paper that is on the stand and ready. If delays continue, a reader's earlier preference is soon forgotten.

Don't strain a reader's good will toward your paper. Take every means to reach your public on schedule, including speedy, uniform, dependable Certified Mats.

For dependable stereotyping, rely on Certified Mats.

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

tising art, photoengraving, typography, duplicate plates, paper and ink. Other sections come under the heading of printing (*i.e.*, processes, presswork and the like), binding and die cutting, campaign production and an alphabetized index. The glossaries at the end of each chapter include definitions of widely used Graphic Arts terms and serve to keep all data on one subject in its logical place.

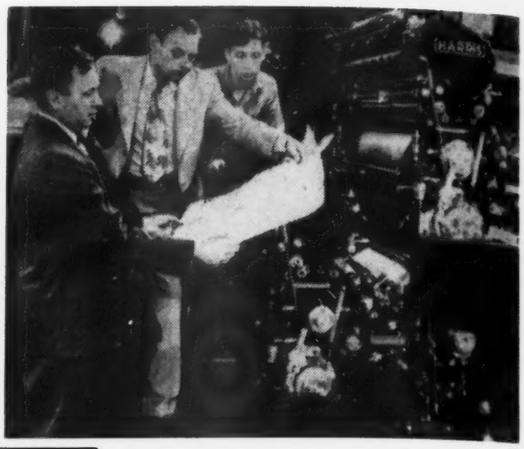
Forty-five pages are devoted to type face combination suggestions and complete alphabet specimens of 70 widely used types. Included also are tables containing character-per-pica count for more than 900 type faces in sizes from 5 to 24 pts.

On the subject of presswork, excellent coverage is given makeready, register, lockup and imposition. A special section is devoted to hints and suggested procedures for copy preparation and production. Basic production information is given for such techniques as Xerography, Fotosetter, Ansco color, Fairchild engraver, Kodak fluorescent water colors, Colotone and Solotone sheets, Bishop process, Fototype, fast drying inks, Vinylite-mold electrotypes, Perfect binding and bi-metallic lithographic plates.

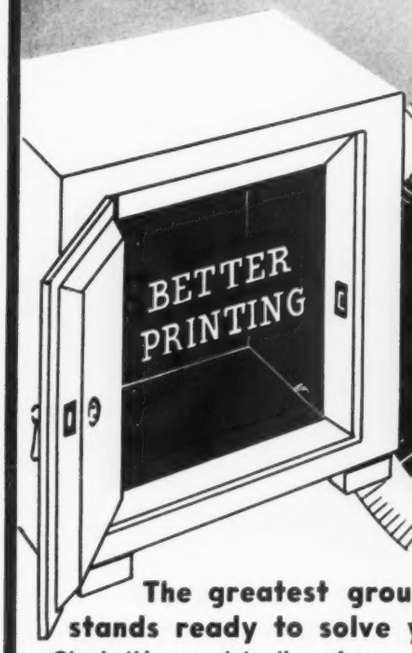
The chapter on paper includes six tables giving basic and equivalent weights and sizes of book and bond papers. Descriptions of the uses and printing characteristics of the principal kinds of printing papers, descriptions of the basic kinds of pulp, and a special section on the 33 functional characteristics of paper, can also be found here.

Production in Advertising—by David G. Hymes. Book consists of 392 pages; size, 5½ in. by 8¼ in.; terra cotta crash cover with gold stamping. May be ordered from *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, O. Price, $5.25 per copy, cash with order.

Harris Press Installation—Shown here is the new Harris 22 in. by 34 in. Two-Color Offset Press recently installed at the Leicht Press, Winona, Minn. From left to right, Fred Leicht. President; Ruben Johnson, Manager; and Pat Maloney, Pressman, examine a press sheet. The Leicht Press, which dates from 1905, specializes in color lithography. In addition to other equipment, the firm is equipped with three Harris single color 22 in. by 34 in. presses, two Seybold cutters and a Seybold three-knife book trimmer.



COMBINO-CUSHION CORK? TOP-CUSHION CORK-FOUNDATION? FELT-FOUNDATION? TOP-TINGUCORK-FOUNDATION? STERLING-KORKER-FOUNDATION? GOLD TYMPAN-FELT-FOUNDATION? COMBINO-TINGUCORK?



The right COMBINATION of SAFE packing will open the way to better ON time production

The greatest group of packing offered stands ready to solve your blanket problems.

Check this complete line of press packing which offers the proper gauges or combination of gauges for every press condition.

COMBINO—An extremely durable clean printing laminated blanket. Gauges .062", .083", .093".

"TINGUE" COATED FELT—For those who prefer a softer packing. Gauges .083", .093".

UNCOATED WOOL FELT—Gauges .053", .072", .083".

TOP—Drawsheet is firm, durable, economical and of long life. Gauges .016", .025", .030".

GOLD TYMPAN—Drawsheet—An old favorite for flat bed presses. Gauge .012".

IMPROVED SATISFACTION—A fabric impregnated with "Neoprene" and coated with "Calvaprene." Gauges .024", .026", .030".

STERLING—The latest plastic drawsheet Gauge .025".

CUSHION CORK*—A highly resilient underpacking. Gauges .059" to .085".

TINGUCORK*—Much firmer than "CUSHION CORK" and preferred where precision plates are available. Gauges .032", .055" to .086".

KORKER*—Under Blanket for older type presses or where an unfavorable mechanical condition exists. Gauges .058" to .070".

FOUNDATION—A firm, durable oilproof under packing laminated by duPont with "Neoprene". Gauges .032", .040", .053" to .085", .120".

*Reg. U. S. Pat. Off.

TINGUE, BROWN & CO.

723 E. Washington Blvd.
Los Angeles 21, Calif. PRospect 6023

507 Bishop Street, N.W.
Atlanta, Georgia ATwood 3864

1227 Wabash Avenue
Chicago 5, Illinois HArrison 7-0083

1765 Carter Avenue
New York 57, N. Y. CYpress 9-8800

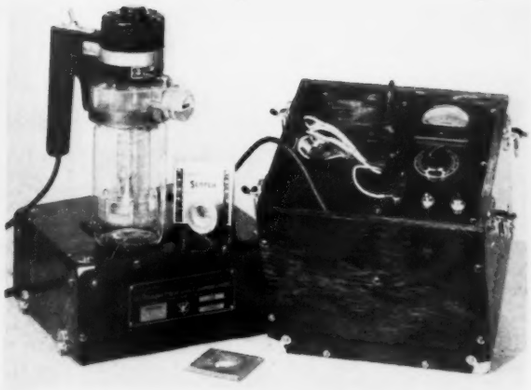
CANADIAN SALES AGENTS: ROSS WHITEHEAD & CO. LTD., MONTREAL, CAN.

Selling to Industry

BERNARD LESTER, author of *Selling to Industry*, has written a 255 page manual of practical ideas and suggestions for the sales engineer who wants to analyze and improve his methods of finding, contacting, selling and servicing industrial customers. The book covers the problems encountered in selling machinery, industrial equipment and services, and the solutions which have been found by experience to be most effective.

As Lester points out in his introduction, "Selling any prospect effectively does not follow a beaten path. Prospects and salesmen vary in temperament, habits and interests. Products sold differ, and new problems in their application and use continually crop up. But success in selling is not a haphazard affair. Proper preparation, orderly and enthusiastic procedure are necessary."

The book has been prepared in the form of short articles which are grouped in a series of sections, such as, Prospects are Our Market, Just How do Prospects Buy, Sales Program Essentials, Makes the



ROTOGRAVURE
PUMP TYPE CYLINDER SPOT PLATER
(Patent Pending)

SAVE COPPER • SAVE TIME

Don't grind off and replate entire cylinder to repair small damaged areas. USE STANDARD PROCESS PUMP TYPE SPOT PLATER!

COMPLETELY FILLS TYPE SECTION 1" long x ¼" wide on a rotogravure cylinder with electrolytically plated copper in 7 to 9 minutes! Base copper or Ballard shell imperfections repaired rapidly by single or successive platings! After handfinishing repaired section, there is no structural variation of copper in or around fill.

MACHINE IS A SELF-CONTAINED, PORTABLE UNIT; housed in a compact reinforced plywood carrying case. Machine consists of plater with motor driven centrifugal pump which has stainless steel impeller and lucite housing; also 6 volt rectifier; fuse protected ammeter; variable resistor amperage control; and reversing switch. Includes roll of pressure sensitive plastic tape and rubber mask for centering and taping over area to be plated.

Machine designed to use standard plating solution of copper sulphate, sulphuric acid and operates on 110 volt, AC current.

STANDARD PROCESS CORPORATION

Manufacturing Gravure Equipment & Supplies

2704 W. Roscoe Street • Chicago 18, Ill.

Brass Hats and Stereotypers' Problems

Sometimes we run across "brass hats" who think their stereotyper shouldn't have any problems. But they do, particularly in these days of high shrinkage. We know it because Beveridge has helped solve hundreds of such problems by providing a mat that meets their most exacting requirements. Talk over your stereotyping problems with your Beveridge salesman. Remember he sells the mat that is "tops in the field" for meeting stereotyping problems.

New Products Division

The Beveridge Paper Company

Indianapolis 4, Indiana

Doubleday, Inc.
The Philadelphia Inquirer
Courier-Citizen Co.
Quinn and Boden
St. Marks Printing
Stearns and Beale
Cornwall Press Inc.
Ad Press, Ltd.
Intaglio Service Inc.
J. F. Newcomb Co.
... and many others

All these printers have proved you can stop static troubles

... with IONOTRONS

There's nothing like use to prove the usefulness of a scientific development. If you have Ionotron Static Eliminators® installed at the static-trouble places on your equipment, you will find — as these other modern printers have found — that Ionotrons do what they're intended to do ... with far less attention than any other means! Ionotrons are an application of atomic energy ... proved safe ... cost nothing to use ... and are effective for hundreds of years. Write for booklet PE-4. *U. S. Radium Corporation, 535 Pearl Street, New York 7, N. Y.*

IONOTRON Static ELIMINATOR

"REGAL" MONOCORK
by
New England

This Press Blanket is by far superior to any cork packing that has ever been available to the industry!

We make this claim with no fear of contradiction. Its perfection is attested to by the fact that we have difficulty in keeping up with the demand.

No matter what your reason may be for not having these blankets on your machine, the simple truth is that you are denying yourself the best. Once you learn what "REGAL" has to offer, you too will be a constant repeat user.

YOU BE THE JUDGE!

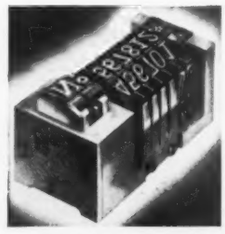
NEW ENGLAND
FIBRE BLANKET COMPANY

164 FREMONT STREET
WORCESTER MASSACHUSETTS
BRANCHES: New York—Chicago—San Francisco—Tulsa

NEWSPAPER PRESSES
•
COMPLETE PLANTS
•
LETTERPRESS and OFFSET
•
BINDERY EQUIPMENT

BEN SHULMAN
ASSOCIATES, INC.
500 FIFTH AVE. • NEW YORK 18, N. Y.
Phone: BRyant 9-1132

the all-purpose **ULTRA-FORCE TYPOGRAPH**



. . . the finest for PLATEN and FLATBED CYLINDER PRESSES. Precision mechanism, legible impressions, for high speed operation. For all forms and manifolds. From tickets, tags and labels to sales slips, checks, ledger sheets and all records. ***Write for Catalog J.***

THREE QUARTERS OF A CENTURY'S SERVICE

WM. A. FORCE
A COMPANY INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N. Y.

Colors, Slits & Rewinds Paper

On the job conversion makes it possible to reduce inventory—Save upcharges for colors and penalties for narrow rolls.

Solves the problem of obtaining groundwood and newsprint in colors.

PUGLISI-DUTRO, INC.
1206 Maple Avenue
Los Angeles 15, Calif.

MAIL COUPON FOR INFORMATION
Please send further information on the DUTRO COLORVERTER

P.E.

Sales Program Effective, Successful Sales Interviews, and Sell the Prospect's Employees. Others are, Getting Help from Others, Use All Our Sales Tools, Meet the Prospect's Objections, and Follow Up the Customer's Decision.

Lester presents convincing reasons for continued, planned sales and service effort regardless of the present day market prospects. He has prepared a book, too, that seems well suited for adoption by industrial concerns as a training manual for sales engineers.

Selling to Industry—by Bernard Lester. Book consists of 255 pages; size, 4½ in. by 6⅞ in.; maroon imitation leather grained cover with gold stamping. May be ordered from The Industrial Press, 148 Lafayette St., New York 13, N. Y. Price, $3.50 per copy.

Newspaper Plant Modernized

(Continued from Page 40)

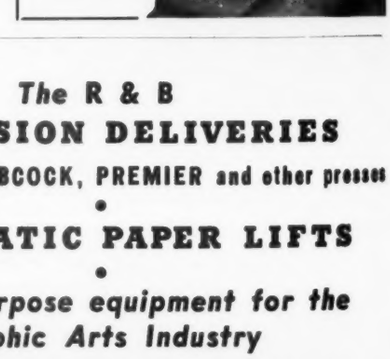
designed for straight line production. The stereo process begins at one of two moulding machines *S-1* in Fig. 1 located at the east end of the makeup area. Directly behind the moulding machines is the Evenray pre-shrinking machine *S-2* which is used to assist in obtaining the high shrinkage necessary to print on a

CHECK ON YOUR SUPPLY OF BOOTH'S ZINK CUT CEMENT

We suggest that the hundreds of users of BOOTH'S ZINK CUT CEMENT check on their supply right now. If you are low, get your order in now for this outstanding cut cement for mounting cuts and solidifying type elements for standing ads. If you have never used this famous cut cement, try it. You'll find it mounts cuts quicker and holds them tighter . . . in use all over the country by leading plants.

Prices: 75c per tube, $6.00 per dozen in the United States.

E. A. BOOTH RUBBER CO.
2855 Scarboro Road
Cleveland Heights, Ohio



VANDERCOOK PRE-PRESS EQUIPMENT

Manufactured by the largest producer of proof presses and other pre-press equipment for letterpress, offset and gravure. *Write for a catalog.*

VANDERCOOK & SONS, INC.
900 North Kilpatrick Avenue • Chicago 51, Illinois

VANDERCOOK PRE-PRESS ...CUTS COSTS!

***The* R & B**
EXTENSION DELIVERIES
for MIEHLE, BABCOCK, PREMIER and other presses
•
AUTOMATIC PAPER LIFTS
•
Special purpose equipment for the Graphic Arts Industry
CONSULT US ON YOUR PARTICULAR PROBLEM

THE RATHBUN & BIRD COMPANY, INC.
DESIGNERS AND MANUFACTURERS • FOUNDED 1898
DEPT PE 379 WEST BROADWAY NEW YORK 12, N. Y.

MIRACLES in '52
Believe It or Not

"A thin dime still gets you a haircut" . . . as it did in Dan Byers barber shop in Bedford, Pa., in 1885. Dan says: "he never saw any reason to charge more."

● **14 x 20** BAUMFOLDER cost **$1085** —15 years ago. ● Today the LARGER, Finer, Faster "Junior Jet" **17 x 22 . . . $1285.** ($85, initial . . . $40. a month for 30 months.) And BAUMFOLDER users say . . . "they pay for themselves FIFTY TIMES OVER!" "BAUMFOLDERS fold, paste, cut, trim, perforate, score, and crimp. So many velvet profits."

Shakespeare said . . . "don't be the last to lay the old aside". Order YOURS NOW.

RUSSELL ERNEST BAUM, INC.
615 CHESTNUT ST. • PHILADELPHIA, PA.

LASTING IMPRESSIONS
because . . .

The soft, plastic texture of every Wood Dry Mat gives deep molding qualities for dependable stereotyping.

WOOD DRY MATS

WOOD FLONG CORPORATION
HOOSICK FALLS, N. Y.
NEW YORK CITY OFFICE:
551 FIFTH AVENUE, NEW YORK 17, N. Y.

ECONOMY LIFTERS
As used in the printing industry for:

ROLL HANDLING
(any size or weight)

SKID HANDLING

BOXES, FLAT PAPER

BALES, WASTE PAPER

CARTONS

● "Handling News Print Rolls"

Other lifters available with capacities of 500 to 5000 pounds. Any platform lift and size. Hand and electric powered hoist units.

ECONOMY ENGINEERING CO.
4501 W. Lake Ave. . . . Chicago 24, Illinois

JUSTRITE... *for EXTRA SAFETY!*

JUSTRITE

The SAFE WAY to handle and pour flammable liquids!

SAFETY FILLING CANS

Spout cap automatically opens and closes. Swinging handle balances load. Heavy coated steel body. Built to last. Flexible spout for easy pouring. Underwriters approved and listed. 3 gal. and 5 gal. sizes.

OILY WASTE CANS

for all kinds of rags or oily waste flammable material. Heavy duty for extra protection. Cover closes automatically. Carrying handle. With or without foot lever. 4" high sturdy legs. Underwriters approved and labeled. From 6 to 25 gallons.

Approved by Underwriters Lab., Inc. and Factory Mutuals

ORDER FROM YOUR JOBBER

JUSTRITE MANUFACTURING CO.

FREE CATALOG
Write Dept. PE
2061 N. Southport Ave.
CHICAGO 14, ILL.

Investigate . . .

The NOLAN STEREOSAW

Check these features: Extra large table 28x36" . . . Powerful 2 HP motor . . . Double V-belt drive . . . Heavy base, no vibration . . . Straight edge and side gauge . . . positive elevating mechanism . . . 10" dia. saw blade . . . Rugged ball bearing saw mount . . . Four-wheel chip buggy. Write for prices.

NOLAN CORP.

ROME, NEW YORK

Builders of Quality Printing Machinery

cated near the finishing block for use in routing color plates.

In the north end of the stereotype department is located all flat cast producing equipment. Job stereo work is handled also on a straight line basis. From the receiving and delivery table at *J-1*, to mat packing *J-2*, Flat Scorching *J-3*, casting *J-5*, sawing *J-6*, shaving *J-7*, to routing *J-8*, and back to the delivery table at *J-1*, the work moves in a circular direction never crossing itself nor interfering with the stereo operation of producing page plates for the daily paper.

This area of the stereotype department is nearest the dispatch room, the source and final destination of flat casts and mats.

Both metal pots in the stereotype room have been covered with metal hoods and coated with asbestos to reduce heat in this area. In addition, a special ventilating system in the vicinity of the big metal pot keeps this heat off of the men operating the Pony Autoplate. Pressmen share a tile shower and locker room with the stereotypers. This room is located off the working level floor of the pressroom, a short distance from the stereotype department.

RICHARDS' "Electromatic" Efficiency Plus

A HEAVY DUTY SAW

For Stereotypers—Electrotypers —Photo Engravers.

PRECISION GAUGES

Instant change to SAW-TRIM

J. A. RICHARDS CO.

Kalamazoo, Michigan

64 in. web. The mat then travels on a straight line to an especially designed packing table *S-4*, locally built, to accommodate four men packing two mats. Directly behind the mat packing table are two Sta-Hi machines, *S-5*, in which the mat is formed. From the Sta-Hi, the mat travels to the final trim *S-6*, and then into the Form-O-Scorch *S-7* and casting box of the Pony Autoplate *S-9*. The plate, after being cast, is finished on the final trim block *S-10* located off the end of the Pony Autoplate and from there is placed in the automatic plate drop *S-11* which carries the plate down one floor to an automatic plate conveyor which runs alongside the four unit Scott press in the pressroom. A curved router *S-13* is lo-

Pressroom

The heart beat of the *Ledger-Enquirer* mechanical body is a new four unit Scott press installed in a new pressroom adjacent to the stereo and composing rooms. The operating level of the press is one floor below the composing and stereo rooms.

The four units are in line with a double folder located at the west end. All units are reel fed using the Cline reel system. Paper is handled from the reel room one floor below the working level of the press. Extending back from the reel room floor is a large paper storage warehouse. A rail siding allows paper to be brought directly into this warehouse.

The four unit Scott Press is equipped with balloon formers and a double bay window attachment. A color cylinder is located on top of the third unit from the folder. The fourth unit from the folder has a reversible drive to allow for running full color. The bay window attachment allows the web printed on the color unit to be placed in any position in the paper. J. Paterson, of Walter Scott & Co., Inc., supervised erection of this press which was first run on January 6, 1951. J. D. Moore, *Ledger-Enquirer* Building Supt., assisted materially in the erection of this equipment.

In the year this press has been operated, Pressroom Foreman White Abel, and Night Pressroom Foreman Louis Hale, have completed a number of full color runs. A 246 page Panorama of

THE DOYLE INFRARED DRYER

Patented

for all types of printing machinery

THE DOYLE VACUUM SHEET CLEANER

Patented

Removes dirt, dust, lint and dry spray from paper while printing

The J. E. Doyle Co., 1220 West 6th St., Cleveland 13, Ohio

SPEEDAUMAT MAILER • Model MC for Newspapers

¼ page folder, AC motor—Prints 11000 addresses per hour

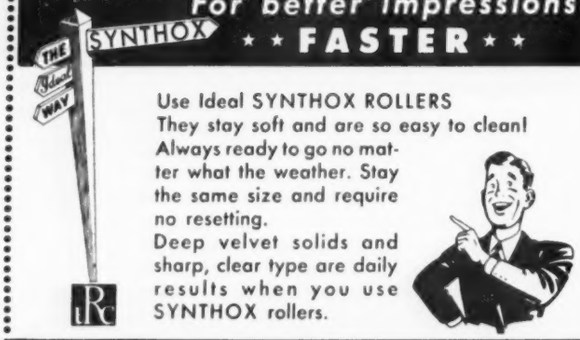
for Illustrations and Description write

JOHN GRIFFITHS CO., INC.

11 West 42nd St. New York 18

For better impressions

SYNTHOX ★★ **FASTER** ★★



Use Ideal SYNTHOX ROLLERS
They stay soft and are so easy to clean!
Always ready to go no matter what the weather. Stay the same size and require no resetting.
Deep velvet solids and sharp, clear type are daily results when you use SYNTHOX rollers.

IDEAL ROLLER & MANUFACTURING CO.

Huntington Park, Calif. Chicago 8, Illinois Long Island City 1, N.Y.

CHAS. T. MAIN, INC.

CONSULTING ENGINEERS

Layouts • Designs • Specifications
and Engineering Supervision

NEWSPAPER AND PRINTING PLANTS

Structural, Mechanical and Electrical Engineering

80 Federal Street Boston 10, Mass.

CLASSIFIED ADVERTISING

ALL CLASSIFICATIONS

$.75 per line 1 9/16" wide. Minimum ad 5 lines, 29 characters per line. Cash with order.

CLOSING DATE—15th of Month preceding Date of Issue

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

PRINTING MACHINES IMPORTERS!!

For sale:
9 pieces 3-colour ANILINE PRINTING MACHINES ASS/III (in original packing cases) in perfectly new condition, manufactured by KOHMA-WORKS, Leipzig, (Germany), goods free of duty in Basle (Switzerland), original export—price of Kohmaworks US $2,850.00 — per machine. **We sell cash F.O.B. Basle (Switzerland) US $1,750.00—per machine.** Working width 500 m/m 3 Aniline colour units and one ruling attachment, cross cutter, length cutter and perforator, largest size 500 x 500 m/m.

Write to: CONTRAX Ltd. REINACH near BASLE (Switzerland).

FOR SALE

Rebuilt, Guaranteed Model 8 fan style Linotype. Microtherm pot, fast roof, outside galley, three magazines. Looks and operates as good as a new machine. Over $1000 new parts. Will sell cheaply.

American Ptg. Mchy. Co., Inc., 88 Gold St., N. Y. C.

STAR CUT CEMENT

Famous since 1936, hundreds of users testify to the effectiveness of STAR CUT CEMENT. Do a better job of mounting photoengravings, stereotypes and electrotypes by using STAR CUT CEMENT. Composing, stereotype, electrotype and photoengraving executives must see that the mounting job is done right. They know the value of a cement that permits mounting cuts quickly and holds them in place. Be sure to use the PROVED cement—STAR CUT CEMENT.
65c per tube—$5.00 per doz.
$5.00 per doz. in 2 doz. lots.
$4.50 per doz. in gross lots.

STAR CUT CEMENT COMPANY
45 Malone Avenue
Belleville 9, N. J.

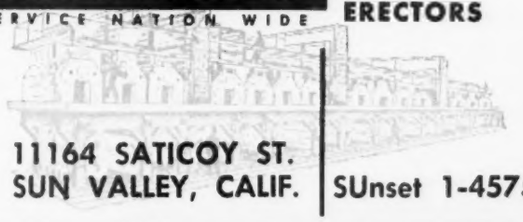
FOR SALE

Goss Flat Router 68 F
Wesel Flat Shaver R B S
Hoe Jigsaw and Drill
Goss Flat Shaver 72 D
Westcott Vacuum Flatcaster

John Griffiths Co., Inc.
11 W. 42nd St., New York 36

LOYAL S. DIXON CO.
SERVICE NATION WIDE

NEWSPAPER PRESS ERECTORS



11164 SATICOY ST.
SUN VALLEY, CALIF.
SUnset 1-4575

DISMANTLING • MOVING • ERECTING • REPAIRING

SALE OF PLANTS • APPRAISALS • SURVEYS

ROBT. ROYDEN GREER
Printing Engineer
5201 WILSHIRE BLVD., LOS ANGELES 36

PLANT LAYOUT • LABOR-SAVING RECOMMENDATIONS

Advertise your plant's surplus equipment in *Printing Equipment Engineer* Classified Ads.

WEB DRYING APPARATUS
for ROTOGRAVURE • WEB-OFFSET • ANALINE LETTERPRESS

B. OFFEN & CO.
168 N. Michigan Ave. Chicago 1, Illinois

SPECIALISTS
in Moving Printing Equipment

We specialize in dismantling, moving and erecting newspaper and commercial printing presses as well as printing equipment of all kinds. Experienced, trained personnel equipped with modern equipment moves one machine or a complete plant any distance required. All contracts are handled promptly and are fully covered by insurance.

The ALLMEN CO. 8416 LAKE AVE. CLEVELAND 2, O. • OLympic 1-2300

NEWSPAPER & PRINTING PLANT ENGINEERING

NEW BUILDINGS • MODERNIZATION
SURVEYS • CONSULTATION

ROBERT W. DICKERSON
2063 EAST 4TH STREET • CLEVELAND 15, OHIO

CLEAN CUT PRINTING

For better printing, let Herrick compound a "tailor-made" ink for you. Finest materials, carefully formulated to meet your pressroom needs, give you clean, sharp, "snappy" impressions . . . brilliantly clear highlights . . . rich, lustrous background blacks. For newsprint, letterpress, or offset.

FROM CUSTOM TAILORED INKS

HERRICK Inks

WM. C. HERRICK INK CO., INC.
Main Office & Plant • EAST RUTHERFORD, N. J.

New Offset Shop in Minneapolis—Walter G. Anderson Lithographers, established late in 1950, recently added two 17 in. by 22 in. Harris offset presses, first of the new Harris model 122A's in the Twin Cities area. Inspecting a sheet turned out on one of the presses are, left to right: Les Belland; Carl F. Struck, Harris-Seybold Co. sales representative in the Northwest; shop owner Walter G. Anderson; and Art Michaud.

Progress issue (with color in every section) was run on this press in the first month after it was put into use.

Special ventilating equipment is located over each unit of the press to withdraw air to eliminate ink mist. All air withdrawn is pulled into the exhaust system through filters which keep the ink from being discharged out of the building.

Since the remodeling project has been completed and put into full use, *Ledger-Enquirer* executives have noted a new spirit of pride in work and enthusiasm prevailing among the workers in the mechanical department. Efficiency has resulted throughout the entire mechanical setup as a result of installing the best equipment available and planning a layout to insure a streamlined work flow.

Production results obtained since the new plant has gone into full operation, seem to justify the feeling that daily newspaper production can be organized from a physical and personnel standpoint exactly as any other production or manufacturing concern, and that where good personnel procedures and good plant layout are used, excellent results can be obtained.

Silk Screen Discussion—The group shown above discussed the silk screen printing process before 225 printers and lithographers at a recent meeting of the Milwaukee-Racine Club of Printing House Craftsmen. Seated from left to right are: Jack Heath, Lawter Chemicals, Inc.; Arne Roschild, Advertising Creations, Inc., Madison, Wis.; Fred Weisse, Process Displays, Inc.; Frank Mayer, Frank Mayer and Associates; and Robert Plumanns, Lawter Chemicals. Standing from left to right are: Gilbert R. LaVesser, President of the Club; and James L. Coffey, Process Displays, Inc., Milwaukee, Chairman of the program. During the course of the panel discussion, Mayer declared that while silk screen printing can logically be used to advantage by letterpress printers and lithographers, because it gives them a sales area which they alone could not fully exploit, the process has earned its own place in the printing field.

Roschild demonstrated a jig which he had built to print on a cylindrical surface in which the screen moved as the cylinder rotated, thus using the principle of rotary impression. He pointed out that screen process jigs are custom-built for each job and often look like Rube Goldberg contraptions. The cost of the jigs must be kept low, he added, since they are built to do only one job and are discarded when the job is completed.

Roschild has built jigs for special jobs including many which accommodated a spherical surface requiring three-way stretch of the screen. Such jigs, he explained, are usually used to apply trade marks or instructions on manufactured items.

ADVERTISERS' INDEX
April 1952

P. E. E. REPRESENTATIVES

WILLIAM L. OSBORN, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

MELBURN O. SIMMONS, Mid-West Manager 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6167.

Allmen Company, The 79
American Roller Co 22
Amsterdam Continental Type and Graphic Equipment, Inc 66

Baum, Russell Ernest, Inc 77
Beveridge Paper Co., New Products Div 75
Blatchford Div., National Lead Co 69
Booth, The E. A., Rubber Co 76
Burgess Cellulose Co 65

Certified Dry Mat Corp 73
Challenge Machinery Co., The 4
Chandler & Price Co., The 2
Cline Electric Mfg. Co 68
Cottrell, C. B., & Sons Co 8

Dayton Rubber Co 16
Dexter Folder Co 10
Dickerson, Robert W 79
Dixon, Loyal S., Co 79
Doyle, The J. E., Co 78
Dutro, Orville, & Son, Inc 23

Eastern Newspaper Supply, Inc 61
Economy Engineering Co 77
Edes Mfg. Co 64

Federated Metals Div., American Smelting & Refining Co 67
Force, Wm. A., & Co., Inc 76

General Electric Co 20, 21
Goss Printing Press Co., The 24
Graphic Arts Employment Service 66
Greer, Robert Royden 79
Griffiths, The John, Co 78

Hamilton Mfg. Co 59
Hamilton Tool Co., The 17
Hammond Machinery Builders, Inc ..... Inside back cover
Harris-Seybold Co 18, 19
Herrick, Wm. C., Ink Co., Inc 79
Hoe, R., & Co., Inc 11

Ideal Roller & Mfg. Co 78
Imperial Type Metal Co 63, 72
International Printing Ink, Div., Interchemical Corp 6
Intertype Corporation ..... Outside back cover

Justrite Mfg. Co 77

Linotype Parts Co., Inc 69, 73
Ludlow Typograph Co 7

Main, Chas. T., Inc 78
Matrix Contrast Corp 26
Mergenthaler Linotype Co 55
Miehle Printing Press & Mfg. Co 72
Miller Printing Machinery Co 15
Monomelt Co., Inc., The 62, 72
Morrison Company, The 25

New England Fibre Blanket Co 75
Nolan Corporation 78

Offen, B., & Co 79

Puglisi-Dutro, Inc 76

Rapid Roller Co 14
Rathbun & Bird Co., Inc., The 76
Richards, J. A., Co 78
Rosback, F. P., Co 60
Rouse, H. B., & Co 71

Scott, Walter, & Co., Inc 3
Shulman, Ben, Associates, Inc 76
Sta-Hi Corporation 1
Standard Process Corp 75
Strong Electric Corp ..... Inside front cover

Teletypesetter Corporation 70
Timken Roller Bearing Co., The 9
Tingue, Brown & Co 74

U. S. Radium Corp 75

Vandercook & Sons, Inc 76

Wood Flong Corp 77
Wood Newspaper Machinery Corp 12, 13

STEP UP and CAST FAST WITH A HAMMOND *EasyKaster "8"*

MODEL EK-8P ELECTRIC

HAMMOND *EasyKaster "8"*

- Gas or Electric 800 lb. capacity valve controlled melting pot.
- Automatic Metal Temperature Control.
- Automatic and Balanced 4-point lock-up.
- Easy Operation—bed *rolls* into place.
- Available without melting pot—Model EK-8.

5 and 6 column *EasyKasters*

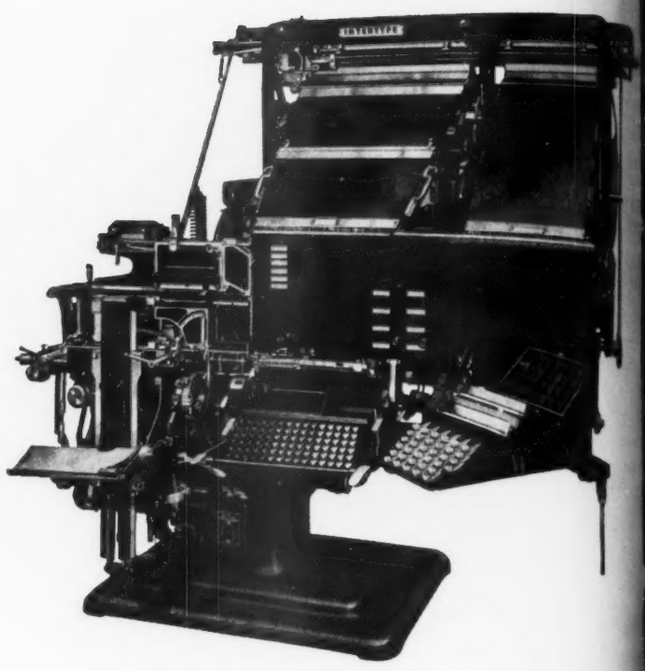
Gas or Electric 400 lb. Capacity Melting Pot.

Automatic Metal Temperature Control.

Hammond Machinery Builders INC

1604 DOUGLAS AVENUE KALAMAZOO, MICHIGAN

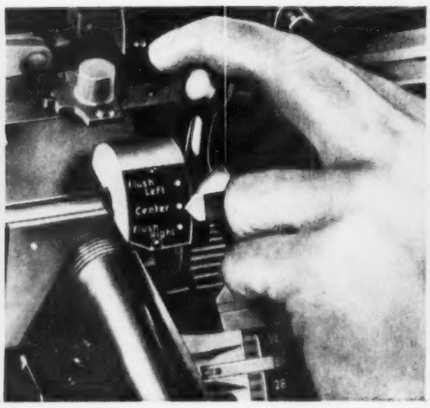
The... Intertype Mixer is a dependable PROFIT MAKER

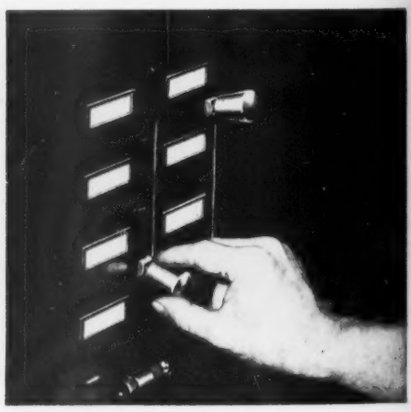


It's Versatile. A GREAT MANY hard-to-do jobs become profitable business with an Intertype® Mixer line composing machine. It sets all kinds of mixed composition—text and display—for grocery and department store ads, as well as classified listings, catalog work, et cetera—and at practically straight matter speed... thanks to continuous distribution.

Saves Time, Saves Motions. The *Autospacer* eliminates fumbling and fussing with quads and spacebands. The *Finger-Flip Mixer Shift* mixes as many as six faces in the same line without changing magazine positions. . . . The no-turn *Autoshift* shifts magazines by *power* instead of *push*. . . . To versatility and efficiency add year-in, year-out dependability and you will know why an Intertype Mixer is a proven profit-maker. Ask our salesman to tell you more

Set in Waverley, Lydians, Futura Bold





For PROFITABLE Typesetting... Look to Progressive INTERTYPE

Intertype Corporation, Brooklyn 2, Chicago 10, Los Angeles 15, San Francisco 11, New Orleans 10, Boston 10
In Canada: Toronto Type Foundry Co., Ltd.: Toronto, Montreal, Winnipeg, Vancouver, Halifax